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Accounting by stock life insurance companies for annuities, universal life insurance, and related products : and accounting for nonguaranteed-premium contracts; Issues paper (1984 November 5)

American Institute of Certified Public Accountants. Insurance Companies Committee and Nonguaranteed-Premium Products Task Force

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NOVEMBER 5, 1984

ISSUES PAPER

ACCOUNTING BY STOCK LIFE INSURANCE COMPANIES FOR ANNUITIES, UNIVERSAL LIFE INSURANCE, AND RELATED PRODUCTS AND ACCOUNTING FOR NONGUARANTEED-PREMIUM CONTRACTS

PREPARED BY THE
INSURANCE COMPANIES COMMITTEE AND
NONGUARANTEED-PREMIUM PRODUCTS TASK FORCE
AMERICAN INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS

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November 5, 1984

J.T. Ball
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Dear J.T.:

Accounting by Stock Life Insurance Companies for Annuities, Universal Life Insurance, and Related Products and Accounting for Nonguaranteed-Premium Contracts

Enclosed for the FASB's consideration is an issues paper on accounting by stock life insurance companies for various relatively new forms of long-duration life insurance contracts. The issues paper was prepared by the Nonguaranteed-Premium Products Task Force of the AICPA Insurance Companies Committee.

The paper discusses--

- Accounting for annuity contracts, except for variable annuities as defined by FASB Statement No. 60.
- Accounting for universal life insurance contracts.
- Accounting for lump-sum premium contracts.
- Accounting for nonguaranteed-premium contracts.
- Accounting for the costs of internal replacements of traditional life insurance contracts with universal life insurance contracts.

These issues were among those that FASB Statement No. 60, "Accounting and Reporting by Insurance Enterprises," listed as being under study when that Statement was issued.

The issues paper discusses the current practices and proposed methods of accounting for these types of long-duration insurance contracts, and it includes the views and advisory conclusions of AcSEC, the Insurance Companies Committee, and its task force.

Representatives of the Accounting Standards Division are available to discuss the issues in this paper with members of the Board or its staff at your convenience.

Sincerely,

Roger Cason
Chairman
Accounting Standards
Executive Committee

Frank A. Bruni
Chairman
Insurance Companies
Committee

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ISSUES PAPER

ACCOUNTING BY STOCK LIFE INSURANCE COMPANIES FOR ANNUITIES, UNIVERSAL LIFE INSURANCE, AND RELATED PRODUCTS AND ACCOUNTING FOR NONGUARANTEED-PREMIUM CONTRACTS

1. This issues paper discusses generally accepted accounting principles and their application by stock life insurance companies to various types of long-duration life insurance and annuity contracts, other than traditional ordinary whole life insurance contracts. The types of contracts addressed in this paper are:

- All annuities, except variable annuities as defined by FASB Statement No. 60,
- Universal life insurance, and
- Single-premium whole life insurance and similar lump-sum premium products.

This paper also addresses accounting for the internal replacement of traditional contracts by universal life insurance contracts and certain accounting issues relating to nonguaranteed-premium contracts. The products to which this paper applies are more fully described later in the paper. The application of this issues paper to variable universal life insurance has not been determined.

2. This issues paper was prepared by the Nonguaranteed-Premium Products Task Force of the AICPA Insurance Companies Committee. The task force received substantial assistance in identifying and analyzing the issues from the American Academy of Actuaries' Life Insurance Financial Reporting Principles Committee and its task force on nonguaranteed-premium products and from the Committee on Financial Reporting Principles of the American Council of Life Insurance. However, the views and advisory conclusions in this paper do not necessarily represent the positions of those organizations.

BACKGROUND

3. The Nonguaranteed-Premium Products Task Force was formed by the AICPA Insurance Companies Committee to develop accounting guidance regarding nonguaranteed-premium life insurance contracts. Those contracts are discussed in the first section of this paper.

4. The task force was also directed to study the accounting issues associated with other relatively new types of life insurance products, primarily those described as universal life, and other products that provide for flexible mortality, interest, premium, face amount, or cash value elements. To develop accounting guidance for the entire range of those new life insurance and annuity products, the task force first studied the accounting for single-premium deferred annuities (SPDAs). SPDAs represent one end of the product spectrum, and therefore were considered

an appropriate vehicle for isolating major accounting issues. The task force prepared a draft on accounting for SPDAs, which discussed current accounting standards, the development of those standards, and possible approaches to accounting for SPDAs. Elements of that draft are incorporated in this issues paper. The task force then studied the accounting issues as they relate to other types of annuities and to universal life insurance.

ACCOUNTING FOR NONGUARANTEED-PREMIUM CONTRACTS

Description of Contracts

5. Nonguaranteed-premium contracts permit the insurance company to periodically change gross premiums charged to policyholders in response to changes in expectations that were used in establishing the initial price of the contract. Such policies include, in addition to nonparticipating nonguaranteed-premium life insurance, nonparticipating guaranteed-renewable accident and health insurance. In a nonguaranteed-premium policy, benefit levels generally are guaranteed for the term of the contract, and the initial gross premium may be guaranteed for a limited period, such as three to five years for life insurance. The insurance company has the right at specific dates to change the gross premium, subject to any maximum gross premium specified by the policy. The right to redetermine gross premiums pertains to a defined group of policies rather than to individual policies. The basis for premium changes may be explicitly stated (for example, linked to certain economic indexes) or may be related

to expectations regarding interest rates, mortality or morbidity rates, persistency, or expenses. Competitive pressures may influence decisions to change gross premiums.

6. Guaranteed-premium fixed-benefit insurance contracts impose certain risks on the insurance company if circumstances later change. For example, poorer than anticipated investment experience or higher than anticipated mortality or morbidity experience may result in revenues falling short of expenses. On the other hand, rising investment rates or lower mortality or morbidity experience could result in policyholders replacing their coverage with other, lower-priced contracts. Nonguaranteed-premium contracts allow the insurance company a certain degree of flexibility to meet competition from other insurance products or other investments or, if necessary, to raise premiums to cover increased costs. Guaranteed-renewable accident and health insurance has been marketed for many years, but nonguaranteed-premium life insurance is relatively new and was not considered in the development of the audit guide, "Audits of Stock Life Insurance Companies," or FASB Statement No. 60, "Accounting and Reporting by Insurance Enterprises."

Present Practices

7. FASB Statement No. 60 indicates that the original assumptions used in periodically determining the liability for future policy benefits should be locked in for the duration of a long-duration contract. However, for nonguaranteed-premium contracts, by changing the gross premium rate in response to current economic

conditions, the insurance company will change its future pattern of revenues. Some therefore believe the original assumptions should be revised to reflect current expectations in order to maintain a reasonable matching of revenues and expenses.

8. In accounting for guaranteed renewable accident and health insurance (which is a type of nonguaranteed-premium contract), some companies have revised their assumptions to reflect current expectations when premiums are changed. In 1983, the American Academy of Actuaries issued an interpretation that describes considerations in establishing actuarial assumptions for nonguaranteed-premium policies. The interpretation recommends that revised prospective assumptions, rather than the original assumptions, be used when gross premiums are changed.

Views on Present Practices

9. The original assumptions established when nonguaranteed-premium contracts are issued should be related to the anticipated level of premiums that will be charged to policyholders. This is consistent with guidance in the audit guide for accident and health insurance, which states, "For guaranteed renewable, collectively renewable, and long-term cancellable contracts, estimates of future premiums should, in some cases, consider anticipated premium increases and their effect on lapses and anti-selection (the tendency for high persistency of poor risks)" (page 83). The redetermination of gross premiums on existing nonguaranteed-premium policies involves pricing methods, assumptions, and analyses similar to those used in establishing premiums for a new product.

10. The audit guide, from which the principles in FASB Statement No. 60 were derived, focused primarily on the traditional forms of insurance that were dominant in the market at that time--mainly guaranteed-premium, fixed-benefit, ordinary life insurance. The guide concluded, "A level recognition of premium revenue over the lives of individual contracts was considered an appropriate method of recognition of revenues in proportion to performance. The level recognition of premium revenues for whole-life contracts is satisfactorily accomplished by recognizing premiums as revenues when due" (page 67). The guide goes on to state that "any profit in the premium in excess of provisions for adverse deviation will emerge in relation to premium revenues" (page 68). Since the guide presumed that premiums would remain level throughout the term of the policy, it concluded that it is appropriate to also lock in the original assumptions for that term.

11. The nonguaranteed-premium policies now available allow companies to periodically change gross premiums, and some believe that the assumptions should be locked in only so long as the gross premiums are locked in. Those in favor of revising the assumptions believe that, if gross premiums are changed and the assumptions are not changed, an inconsistency develops between the anticipated revenue assumptions and anticipated expense assumptions that may significantly distort income recognition in future periods. They also believe that the adjustment of

current assumptions when gross premiums are changed should be made on a prospective basis. Retrospective adjustment of the current amount of the liability for future policy benefits and the amount of amortization of deferred acquisition costs at the date the premium is changed would result in the recognition of income or loss in the current period. Proponents believe that the decision to change gross premiums, however, should not affect current reported income but should affect reported income over the periods that the premium revenues will be recognized. Appendix C provides an example of the effects of revising the assumptions when gross premiums change.

12. Opponents of revising the assumptions believe that changes in gross premiums are, in effect, similar to policyholder dividends on participating policies. They believe, therefore, that if the assumptions for participating policies are required to be locked in for the duration of the contract, so should the assumptions for nonguaranteed-premium policies. Others, however, believe that dividends and gross premium changes are not similar. They note that policyholder dividends are a retrospective distribution of earnings. Gross premium changes, on the other hand, are prospective. In fact, certain regulatory requirements specify that past profits or losses cannot be considered in determining gross premium changes. Furthermore, dividend scales are not guaranteed, but gross premiums normally are guaranteed, either explicitly or implicitly, for a limited period.

ADVISORY CONCLUSIONS

13. The assumptions used in accounting for nonguaranteed-premium policies should be revised prospectively when gross premiums are changed if maintenance of the original assumptions would significantly affect the pattern of future income recognition. Following a change in gross premiums, changes in the liability for future policy benefits and amortization of deferred acquisition costs should be prospectively determined using assumptions applicable to the changed gross premiums. The revised assumptions should be locked in until the next change in gross premiums. Revised assumptions should relate to the remaining terms of the policies, and the amounts of the liability for future policy benefits and unamortized deferred acquisition costs as of the gross-premium-change date should not be changed, unless the failure to do so would result in the deferral of a loss (see the discussion of premium deficiencies in FASB Statement No. 60, paragraphs 32 and 35 through 37).

ACCOUNTING FOR ANNUITIES, UNIVERSAL LIFE INSURANCE, AND RELATED PRODUCTS

Description of Contracts

14. This section addresses the following types of contracts:

- All annuities, except variable annuities as defined in FASB Statement No. 60.
- Universal life insurance.
- Single-premium whole life insurance and similar lump-sum premium products.

A later section addresses certain accounting issues relating to the internal replacement of traditional life insurance contracts with universal life insurance contracts.

Annuities

15. FASB Statement No. 60 defines an annuity contract as "a contract that provides fixed or variable periodic payments made from a stated or contingent date and continuing for a specified period, such as for a number of years or for life." There are a number of varieties of annuity contracts.

16. A **single-premium annuity** contract is entered into with the payment of one premium at the inception of the contract. Under a **fixed-premium annuity** contract, the policyholder pays premiums of fixed amounts at scheduled dates over a period of time. Under a **flexible-premium annuity** contract, premium payments by the policyholder are made at the discretion of the policyholder.

17. Contracts may be immediate annuities or deferred annuities. Under an **immediate annuity** contract, periodic payments to the annuitant begin one period after payment of the premium by the policyholder. Immediate annuity contracts are single-premium contracts. Under a **deferred annuity** contract, benefit payments to the annuitant begin at some future date. At that date, the annuitant may have various options regarding the payment of benefits.

18. Traditional annuity contracts generally featured fixed premiums and guaranteed cash values and benefit levels. Deferred annuity contracts issued in recent years typically provide for the accumulation of premiums and related interest credited to the contract value during the period that funds are held by the insurance company. The interest rates typically are subject to certain guaranteed minimums that are supplemented by excess interest credits declared by the insurance company. Such annuity contracts may also include features such as:

- Front-end loads, which are charges deducted from the gross premium before any declared interest credits.
- Back-end loads, which are often referred to as surrender charges. These are charges deducted from gross accumulated contract values in the event of full or partial withdrawal of funds from the contract by the policyholder. These charges may be, but normally are not, assessed in the event of the death of the annuitant or the use of contract values to purchase available settlement options.
- Indexing, which is the determination of interest credits

based on indexes of current market interest rates.

- Bail-out provisions, which are waivers of surrender charges that would otherwise be assessed on termination of the contract if declared interest rates used in the accumulation of gross contract values fall below a specified rate.

19. For the annuity contracts to which this issues paper applies, the rate at which interest will be credited to the contract value, or the method for determining interest credits (or, as in traditional annuity products, the amount of the cash value and benefits), is specified in the contract. Although interest rates may be indexed to current market rates, the interest credits are not directly determined by the experience of specific investments by the insurance company. The life insurance company expects to realize profits on these annuity contracts primarily from the interest margin or "spread," which is the difference between the company's return on invested funds and the interest credited to contract values.

20. This issues paper does not apply to variable annuities. FASB Statement No. 60 defines a **variable annuity** contract as "an annuity in which the amount of payments to be made [is] specified in units, rather than in dollars. When payment is due, the amount is determined based on the value of the investments in the annuity fund." The accounting for variable annuities under FASB Statement No. 60 is distinct from the accounting for long-duration insurance contracts. Paragraph 53 of FASB Statement No. 60 states that, under a variable annuity contract,

"The contractholder generally assumes the investment risk, and the insurance enterprise receives a fee for investment management, certain administrative expenses, and mortality and expense risks assumed." The audit guide provides more specific guidance on accounting for variable annuities on pages 82-83.

Universal Life Insurance

21. A recent development in life insurance is a generic type of contract referred to as **universal life insurance.** Universal life insurance is fast becoming the predominant form for new long-duration life insurance contracts, and a significant number of policyholders with traditional contracts have replaced them with universal life contracts. Under a universal life insurance policy, premiums paid by the policyholder (less certain expense charges, if any) are credited to a fund from which are deducted periodic charges for life insurance coverage (the "mortality charge") and to which interest is credited. The balance of the fund represents the contract value of the policy. The interest credited to the policyholder's fund or contract value is generally based on a guaranteed minimum rate (3 to 5 percent) plus additional ("excess") interest at rates determined by the insurance company. The excess interest rates may be based on current and expected investment experience or an index such as U.S. Treasury bill rates. The policy's contract value is thus directly related to changes in interest rates, premium and benefit levels, and the cost of insurance.

22. Universal life insurance may be either a flexible-premium or fixed-premium contract. Under **flexible-premium universal life insurance**, the policyholder can usually change the amount of coverage and the amount and timing of premium payments. The policy will remain in force so long as the contract value is sufficient to permit deductions for the cost of insurance and expense charges. A flexible-premium universal life policyholder can usually choose, subject to certain limits, either a specific amount of (a) death benefit, and insurance is purchased for the difference between the death benefit and the accumulated contract value, or (b) insurance coverage, and the death benefit equals the amount of that coverage plus the accumulated contract value.

23. Under **fixed-premium universal life insurance**, the premium cannot be changed by the policyholder nor can the face amount of the insurance coverage ordinarily be changed. Like flexible-premium universal life, the expenses, mortality charges, and investment earnings deducted from or credited to the policy are separately disclosed, and the contract value will depend on the level of those charges and excess interest credited to the contract value.

24. For purposes of this paper, the definition of universal life insurance is taken from the NAIC model regulation that addresses valuation and nonforfeiture guidelines, among other issues. The NAIC definition states:

> "Universal life insurance policy" means any individual life insurance policy under the provisions of which separately identified interest credits (other than in connection with dividend accumulations, premium

deposit funds, or other supplementary accounts) and mortality and expense charges are made to the policy. A universal life insurance policy may provide for other credits and charges, such as charges for the cost of benefits provided by rider.

> (Note: This regulation is specifically designed for individual life insurance policies. It is not intended, however, to prohibit the issuance of group universal life insurance policies. States are free to adopt whatever portions of this regulation which are appropriate for group insurance and which are in accordance with State law.
>
> Unlike the unitary nature of traditional whole life insurance, a distinguishing feature of universal life insurance is the existence of an indeterminate policy value from which specific periodic charges are deducted and to which specified periodic interest is credited at a rate not determined at issue. This indeterminate policy value feature with separately identified charges and credits may or may not have a premium pattern predetermined by the insurer at issue. Valuation and nonforfeiture treatment of these products varies depending upon the nature of the premium pattern. To distinguish these treatments, a definitional distinction has been made between "flexible" and "fixed" premium policy forms.)

Flexible Premium Universal Life Insurance Policy
"Flexible premium universal life insurance policy" means a universal life insurance policy which permits the policyowner to vary, independently of each other, the amount or timing of one or more premium payments or the amount of insurance.

Fixed Premium Universal Life Insurance Policy
"Fixed premium universal life insurance policy" means a universal life insurance policy other than a flexible premium universal life insurance policy.

25. A flexible-premium universal life insurance policy generally permits the policyholder to pay **lump-sum premiums**, which, broadly speaking, are premiums under a particular contract that are in excess of the premium payments that the insurance

company has a reasonably conservative expectation of receiving on a continuing and long-term basis. Lump-sum premiums are immediately credited to the contract value on receipt. Lump-sum premiums often occur at the inception of the contract when a policyholder replaces a traditional life insurance contract with a universal life insurance contract (possibly with the same insurance company), but lump-sum premiums may be paid at any time during the policy. Universal life insurance policies also generally permit partial withdrawals of contract values subject to possible charges by the insurance company.

26. Death benefits under a life insurance policy are not taxable to the beneficiary and the accumulation of contract values in a life insurance policy is not taxable to the policyholder until the values are withdrawn. To control this favorable tax treatment, the Internal Revenue Code establishes certain tests for a contract to be treated as life insurance. These are intended to assure that the contract has a significant insurance element so that it is not used solely as a short-term tax sheltered investment.

27. The application of this issues paper to **variable universal life insurance** contracts has not been determined. Like a variable annuity, the contract value of variable universal life insurance is denominated in units in a separate investment account. Variable universal life insurance is just being introduced into the market, and the specific forms of those contracts has not been determined.

Single-Premium Whole Life Insurance and Similar Products

28. A **whole life insurance** contract provides coverage regardless of the age of the insured, and the face amount of the policy is paid on death of the insured. Under a **single-premium whole life** contract, whole life insurance is obtained by the payment of one premium at the inception of the contract. Under a **limited-payment** contract, whole life insurance is obtained by the payment of stated premiums for a stipulated period (such as 10 years, 20 years, to age 65, and so on). Under an **ordinary life insurance** contract, stated premiums are required to be paid over the life of the insured.

29. This paper applies to single-premium whole life insurance and any other single-premium long-duration life insurance contract. The paper also applies to any other long-duration life insurance contract whose premium-payment provisions are such that the contract is essentially a lump-sum premium contract.

Current Accounting Standards

30. Generally accepted accounting principles for stock life insurance companies were first described in the 1972 AICPA audit guide, "Audits of Stock Life Insurance Companies." FASB Statement No. 60, "Accounting and Reporting by Insurance Enterprises," (June 1982) extracted the accounting principles and practices from the audit guide without significant change. Under the FASB Statement, annuities, universal life insurance, and the related products addressed in this issues paper ordinarily are

classified as long-duration contracts.* The general principles in accounting for long-duration insurance contracts are described in this section.

Premiums

31. Premiums are recognized as revenues when they are due from the policyholder. Paragraph 15 of FASB Statement No. 60 specifically states that this applies to limited-payment and single-premium whole life contracts and annuities.

Liability for Future Policy Benefits

32. When the premium revenue is recognized, a liability is accrued for future policy benefits under the contract. The liability for future policy benefits (often referred to as the benefit reserve) is determined as follows:

Present value of future benefits to be paid
- Present value of future net premiums
= Liability for future policy benefits

The "net premium" used in this calculation is the portion of the gross premium payment that is needed to provide for the cost of all expected benefits and expenses.

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* The appendix to FASB Statement No. 60 states the following in paragraph 69:

> This Statement does not address issues that are currently being studied by the insurance industry and the accounting and actuarial professions. Some of those issues include. . . how should universal life insurance contracts and similar products that have been developed since the AICPA insurance industry related Guides and SOPs were originally issued be accounted for?

33. The interest rate used in calculating the present values is based on the insurance company's expected investment yields at the time the contract is entered. The determination of the liability also requires assumptions regarding such factors as mortality, terminations of contracts by policyholders ("persistency" or "lapses"), and expenses to be incurred by the company. These assumptions include a provision for the "risk of adverse deviation." The risk of adverse deviation is the risk that actual experience will be less favorable than assumed. The provision for adverse deviation may be viewed as a margin of conservatism in the assumptions. They might also be viewed as a means of recognizing a portion of the income in relation to the service performed by the insurance company in assuming the risk of adverse deviation. Once the assumptions have been estimated at the inception of the contract, they are "locked-in;" that is, the liability is not continually recalculated as actual experience becomes known.

34. The determination of the liability for future policy benefits, of course, also requires estimates of future premiums to be collected and future benefits to be paid.

Acquisition Costs

35. Policy acquisition costs are capitalized and charged to expense in proportion to the premium revenue recognized. Acquisition costs are defined as those costs that vary with and are primarily related to the acquisition of new or renewal insurance contracts. The capitalized costs are amortized to

expense using the same assumptions used in determining the liability for future policy benefits.

Income Recognition Under Current Standards

36. To better understand how income might be recognized under current standards, it may be helpful to see how these general principles might be applied in two simplified examples.

37. Ordinary whole life insurance example. First, the general principles can be applied to an ordinary whole life insurance contract. Under this type of contract, and a fixed amount of premiums are payable periodically over the entire duration of the contract, and a fixed amount of benefits (the face amount of the policy) will be paid on the death of the insured.

38. Since premiums are due every period over the life of the contract, revenue will be recognized in equal amounts each period. Deferred acquisition costs are amortized to expense as premiums are recognized, so a portion of the costs likewise would be expensed each period. The liability for future policy benefits would be determined each period, and the increase in the liability will be an expense. The determination of the liability is based on the future benefits and the estimated expense and profit margins in future premiums. The resulting reported income will be level over all of the periods and could be expressed as a percentage of the premium for each period. Additional income or losses will be recognized as actual experience

varies from assumptions regarding investment yields, mortality, and other factors and as the provisions for the risk of adverse deviation in the assumptions are "released."

39. Single-premium deferred annuity example. In the simplified example of ordinary whole life insurance, a substantial part of the total income might be recognized as a level percentage of premiums, and premiums are level over the life of the contract in the example. This can be compared to a simplified example of applying those same methods to a single-premium deferred annuity contract.

40. The premium will be recognized as revenue when it is due, that is, in one lump sum at the inception of the contract. Acquisition costs are capitalized and expensed in relation to premium revenues; so the entire acquisition cost will be expensed at the inception of the contract. When the premium revenue is recognized, the liability for future policy benefits is accrued. The liability is the present value of future benefits minus the present value of future net premiums. Since there are no future premiums in a single-premium product, the liability for future benefits simply equals the present value of the future benefits.

41. The present value of future benefits is determined using the company's expected investment yield as the basis for the interest rate. The liability will grow each period by that rate, and an expense will be accrued. However, if actual investment yields were to equal the assumed yield, investment income

in each period would approximately equal the expense (disregarding provisions for adverse deviation). Some income or loss would also be recognized in future periods as actual experience differs from assumptions and as provisions for adverse deviation are released. In this extreme case, a large part of the total expected income could be recognized at the inception of the contract, since income is recognized as a level percentage of premium and there is only one premium.

42. If a rate less than the investment yield rate were used to determine the liability, less income would be recognized at inception. This income would be recognized in future years as investment income exceeds the increase in the liability. Thus, the selection of provisions for adverse deviation in the assumptions can have a significant effect on the pattern of income recognition. A provision equal to the investment spread could effectively shift all of the related income to future periods.

Issues Raised by Current Accounting Standards

43. Attempts to apply current accounting standards to products such as annuities (particularly single-premium and flexible-premium deferred annuities), universal life insurance, and single-premium whole life insurance have raised a number of issues.

- The nonguaranteed nature of eventual costs and benefits under the contracts suggest to some that accounting practices for

guaranteed-cost contracts may not be suitable.

- The flexible or irregular pattern in which premiums may be received suggest to some that complete reliance on premium revenues to determine income recognition may be inappropriate.
- The continual nature of the underwriting and investment management services (that is, the constant repricing of existing business through mortality and service charges and through interest credits) suggest to some that complete reliance on gross premium revenues to measure the level of service and income may be inappropriate.
- The unbundling of the investment and insurance aspects of some products suggest to some that accounting policies for each element can and should be considered separately.
- The diversity of accounting practices currently being followed suggest that significantly different views exist regarding the appropriate pattern in which income should be recognized.

Development of Current Accounting Standards

44. The AICPA industry audit guide, "Audits of Stock Life Insurance Companies," issued in 1972, described generally accepted accounting principles for the types of life insurance then known to the industry. The broad problem addressed by the guide was to determine the incidence of the recognition of income of a life insurance enterprise. The approach taken by the guide was that the recognition of revenues should determine the recognition of expenses and, therefore, income. The guide considered

revenues to be premiums and concluded that --

> ...premium revenue should be recognized over the life of the contract in proportion to performance under the contract.... In general, the Committee agreed that if performance could be measured by one or more of the predominant functions or services, premium revenues should be recognized in direct proportion to such functions or services or by some method which approximates the measure of such functions or services. (page 67)

45. The committee considered several functions and services as bases for recognizing premium revenue, and thus expenses and income. Among them were premium collections, incurred costs, invested funds, and the gross and net amount at risk. Whole life insurance was the central product in the audit guide's analysis, and the revenue recognition concepts applicable to most other products were based on the example of whole life.

46. Whole life insurance. For whole life insurance, the Committee determined that, since "there was no predominant function or service," the level of recognition of premiums as revenue over the life of the contract was appropriate (page 67). For whole life insurance in which fixed premiums are due each period, this objective was considered to be satisfactorily accomplished by recognizing premiums as revenues when due. However, to further assure that income would be recognized over the life of the contracts as services other than premium collection were performed, the concept of provisions for adverse deviation was introduced. The result of the whole life model is that premiums are recorded as revenue, and income is recognized as the premium collection, investment, and protection functions and services are performed.

Because whole life insurance premiums are due periodically over the term of the contract and because provisions for adverse deviation are included in assumptions, this method will result in the recognition of income periodically over the contract term.

47. For limited payment contracts, the guide also stated that revenues should be recognized in relation to performance under the contract. The guide noted, however, that performance under limited payment contracts may be significantly greater during the premium-paying period than after that period. The guide states:

> If, after providing for mortality, withdrawals, expenses (including higher maintenance expenses and amoritzation of acquisition costs during the premium-paying period), and the risk of adverse deviations (based on assumed investment yield), there is any remaining gross premium in excess of the valuation premium [that is, the net premium], it is properly recognized over the premium-paying period in recognition of the higher level of services and functions performed during that period. Because of the provision for risk of adverse deviation from estimates of mortality, withdrawals, investment yield, and expenses over the life of the contract, this method should provide operating results that are both reasonable and conservative. (page 69)

48. Annuities. Without discussing the nature of annuity products or comparing them to whole life contracts, the audit guide concludes:

> The reasoning underlying the accounting described for recognition of premium revenue from whole life and limited payment life insurance contracts also applies to annuity contracts; therefore, annuity considerations should be recognized as revenue when due. (page 70)

49. Review of the major characteristics of the annuity contracts available at that time might have led to the conclusion that the major functions and services performed under annuity contracts relate to investment risk and, perhaps, the premium collection (or sales) function. When the sales and premium collection functions are a lesser portion and investment risk is a greater portion of the company's overall performance under the contract, which may be the case in particular with single-premium and flexible-premium deferred annuities, application of the guide's general principles might lead to the conclusion that income for these annuities should be recognized over the contract term rather than at the premium collection date. This would be justified as the audit guide allows, in fact requires, that some income be related to functions and services other than premium collection. The guide seems to approach such a conclusion for immediate annuities (which are single-premium contracts) for it states, "A reserve for future annuity payments and expenses [under immediate annuity contracts] should be provided in an amount approximating the consideration less acquisition costs." (page 81)

50. The audit guide, presumably, did not reach this conclusion for all annuities for several reasons. First, single-premium and flexible-premium deferred annuities were not important factors in the individual ordinary life insurance or annuity markets. As a result, although the accounting issues associated with single-premium products were recognized, they did not significantly

affect many companies. Secondly, the annuity products offered during the time the audit guide was being developed were substantially different from the present. Contracts generally paid high commissions, often near the levels paid on whole life insurance, and policy loads or expense charges were correspondingly high. Furthermore, excess interest provisions were not as common, and it often was not expected that guaranteed cash values (which were quite low by today's standards) would be supplemented by interest experience more favorable than that implicit in the premium and cash value guarantees. These annuity contracts were reasonably modest variants of whole life and limited payment life insurance. Therefore, many of the whole life principles of revenue recognition may have been considered acceptable for those annuity contracts. Finally, because of the relatively stable economic environment at the time the audit guide was issued, the level of investment risk and other risks associated with annuity contracts were not perceived to be significant.

Present Practices for Annuities

51. Present accounting practices for annuities vary substantially. This is due, in part, to the absence of specific guidance. However, it is also a result of the wide variety of contract designs, investment management philosophies, and differing evaluations of the risks involved for the insurance enterprise. As a result, some enterprises have applied the audit guide provisions concerning premium revenue and benefit cost recognition fairly literally to all annuities. Other enterprises interpret the

audit guide differently in support of alternate accounting policies, particularly for SPDAs.

The Premium Approach

52. Those enterprises that purport to follow the precise language of the audit guide generally do not carry any deferred acquisition costs for SPDAs, since they have been charged against single premium revenues when the contract was issued. Liabilities for future policy benefits and maintenance expenses (reserves) are estimated at the present value of future benefits and expenses to be incurred during the life of the contract. The determination of such reserves may require the selection of assumptions related to --

- Full or partial withdrawal of available accumulated contract values.
- Death of the annuitant.
- Application of accumulated contract values to settlement options.

In each case, the expected cost associated with these contract-holder actions is also estimated. Estimates of these costs depend on assumptions regarding expected investment yields, the interest rate to be credited to gross accumulated contract values, surrender charges (if any), and the charges associated with certain settlement options.

53. A critical factor in calculating the liability for future policy benefits is the interest margin or "spread." The interest margin is the difference between the company's

investment yield and the interest credited by the company to the contract value. If the future benefits were discounted at the rate that interest is credited to the contract, the value of the liability at any time would approximate the contract value. However, the audit guide states that the investment yield rate (subject to provisions for adverse deviation) should be used in determining the liability. The use of this higher rate can result in determination of a liability substantially less than the current contract value and recognition of a significant portion of the interest margin as income when annuity premiums are collected.

Deposit Approach

54. Other enterprises have adopted practices that result in net reserves (reserves less unamortized deferred acquisition costs, if any) that are normally greater than reserves developed following the premium approach. These enterprises do not recognize any portion of income as a percentage of premium. Rather, they treat the premium similar to a deposit, and they recognize all income over the life of the contracts. Two techniques are commonly used to accomplish this result. One is a modification of the premium approach and is referred to as the prospective method. The second approach is based on determining the liability for future policy benefits as the accumulated contract value and generally involves the determination of a deferred acquisition cost asset. This approach will be referred to as the retrospective method. This paper generally discusses these methods as they relate to SPDAs, but their application to flexible-premium

and annual-premium annuities should be consistent and should produce a similar pattern of income recognition.

55. Prospective method. Conceptually, the prospective method is the same as the premium approach and generally does not include a separately determined deferred acquisition cost asset. Like the premium approach, it is based on assumptions regarding future cash flows, and the liabilities are traditional present value calculations. This requires, as in the premium approach, the selection of assumptions regarding future contract-holder actions and their costs (full and partial surrender, death, and application of accumulated contract values to settlement options) and assumptions regarding maintenance and claim settlement expenses. Also similar to the premium approach, this technique requires the determination of the interest rate expected to be credited to gross accumulated contract values. The significant difference between the methods is the manner in which the assumed earned rate of interest is established.

56. Unlike the premium approach, the interest rate used in the prospective method is not based solely on an evaluation of the expected yield to be obtained from invested assets to be acquired with the cash flow from the annuity contracts. Rather, it is established at that level which, at issuance of the contract, results in the present value of future benefits and expenses (excluding nondeferrable acquition costs) being equal to the premium received. This rate is used only if it does not exceed the expected investment yield rate and it results in no income

or loss at the time of issue. If all other assumptions are realized (contractholder activity, credited interest rates, and expenses), income then is recognized in future periods to the extent the interest rate actually earned on investments exceeds this calculated "break-even rate."

57. Retrospective method. The second technique frequently used to achieve the desired result of no income reported at issue does not depend on specific assumptions with regard to future transactions, but is based on the accumulated effects of prior transactions. The retrospective method normally is based on maintaining the liability equal to gross accumulated contract values (including any accrued interest not credited to the contract values at the financial statement date).

58. In addition, deferrable acquisition costs not recovered immediately from front-end loads would be capitalized and amortized. The amortization periods used in practice are often fairly short and may be somewhat arbitrary (for example, straight line over five to seven years), or they may be based on the projected realization of earned interest in excess of that expected to be credited to gross accumulated contract values. Also, some companies may include projected surrender charges in the stream of revenue used to determine the amortization schedule.

59. Settlement Options. For consistent accounting for immediate annuities and deferred annuities under the deposit approach, the liability for future policy benefits established as a result of the contracholder's election of a settlement

option under a deferred annuity contract should result in the recognition of no incoome at the date of election. On election of a settlement option, the liability for future policy benefits and maintenance expenses would be equal to the net liability (the accumulated contract value less deferred acquisition costs) at the date of the change in status of the deferred annuity contract.

Comparison of Current Practices

60. Several examples have been prepared to illustrate the effect of the different practices on the pattern of reported income. A complete description of assumptions and reserve techniques is contained in Appendix A. The most significant assumptions relate to earned and credited interest rates. In these examples, it has been assumed that the company expects to earn 15.5% on invested funds and will credit gross accumulated contract values 14.0%. The illustration of the premium approach uses an assumed investment yield rate of 15.25% after provision for adverse deviation in investment performance. Practices designed to report no income at issue, but to recognize investment income and income from other sources over the life of the contracts could be based on the adoption of either the prospective or the retrospective method. The pattern of reported income over the contract term under the prospective method is similar to that under the retrospective method, with the differences primarily due to the differing approaches to amortizing deferred acquisition costs. The resulting insurance cash flow (which excludes investment income), gross accumulated contract values, and reported

income (pre-tax) for these alternatives are presented below:

Calendar Year	Insurance Cash Flow	Gross Accumulated Account Values	Income Reported Pursuant to Accounting Practices		
			Premium	Prospective	Retrospective
At Issue	$ 933.00	$1,000.00	$19.92	$ 0.00	$ 0.00
1	(4.00)	1,066.00	.98	2.07	1.81
2	(71.00)	1,138.00	2.19	4.60	5.03
3	(77.00)	1,215.00	2.35	4.93	5.29
4	(83.00)	1,297.00	2.53	5.29	5.54
5	(90.00)	1,384.00	2.71	5.66	5.80
10	(133.00)	1,890.00	3.80	7.91	7.48
15	(192.00)	2,519.00	5.26	10.84	10.80
Present Value At Issue	$ 38.30	N/A	$38.30	$38.30	$38.30

Present Accounting Practices for Universal Life Insurance

61. Present industry accounting practices for universal life insurance vary substantially. In part, this is due to the absence of specific authoritative guidance. It is also the result of the wide variety of contract designs and differing investment, marketing, and underwriting philosophies.

62. Some companies apply the traditional approach described in the audit guide for whole life insurance. This approach (referred to here as the "premium approach") allows income to be recognized as a level percentage of premium revenues before the release of provisions for adverse deviation. Some believe

that the collection of premiums is not the appropriate measure of the insurer's performance under a universal life insurance contract. They apply methods similar to the prospective or retrospective methods described above for annuities. These methods, referred to here as the "deposit approach," result in no recognition of income at issuance of the contract or as a percentage of premium. Another approach, called a "composite approach," also has been used. This method uses additional provisions in the assumptions in order to recognize income in relation to the various functions and risks as in the prospective practice, and the remainder of the income is recognized as a percentage of premium revenues in the premium approach.

Premium Approach

63. Under the premium approach, universal life insurance premiums are recognized as revenue when due or collected. Estimates of future premiums, benefits, and expenses are made based on assumptions regarding investment yields, interest credit rates, contract charges, contract terminations or withdrawals, benefits, expense levels, and other factors. The assumptions should include provisions for adverse deviation. Policy benefits and expenses are matched against premium revenues through the calculation of the liability for future policy benefits. For flexible-premium contracts, assumptions must also be made regarding expected future premiums, benefit levels, and other features of the contract. Although the premiums, face amount of the policy, and contract value are not fixed, the liabilities and

deferred acquisition costs are determined based on traditional concepts. The result is that income is recognized substantially in proportion to premium revenue, except for the effects of variations from assumptions and the release of provisions for adverse deviation.

Deposit Approach

64. Under this approach, no income is recognized at the issuance of the contract and no portion of the income is recognized as a percentage of premium. Rather, income is recognized as it is realized through interest margins, mortality and expense margins, and surrender charges. Two variations have been proposed. One method is similar to the prospective method described for annuities. Under this method, sufficient provisions are included in each major assumption so that the resulting net premium equals the gross premium. The other method is similar to the retrospective method for annuities. Under this method, the gross contract value is maintained as the liability for future policy benefits, and capitalized acquisition cost are amortized in proportion to future expected revenues consisting of interest margins, mortality margins, net expense loads, and surrender charges. Periodic mortality charges are usually assessed against contract values at the beginning of a period (often monthly) and interest is credited at the end of a period. The application of either the prospective or retrospective practice requires consideration of provisions for unearned mortality charges and accrual of uncredited interest as of the financial statement date.

65. Retrospective method. The gross contract value of a universal life insurance contract is comparable to the contract value of an annuity. It is gross premiums (net of front-end charges, if any) minus expense charges and mortality charges, and plus interest credits. Therefore, the determination of the liability for future policy benefits, which is equal to the gross fund value, does not require any assumptions as to future experience. Since the premium is credited to the fund, the use of the gross fund value as the liability dampens the effect on reported income of lump-sum premiums and other fluctuations in premium payments. Thus, under flexible-premium universal life policies, reported income would not normally change abruptly when large amounts are deposited or when premium payments are suspended.

66. Deferred acquisition costs consist of the difference between (a) excess first-year acquisition costs (as defined by FASB Statement No. 60) and (b) excess first-year front-end charges. Deferral of this difference spreads this first-year net cost (the usual case) or benefit over the life of the policy in proportion to an expected future revenue stream. Other costs that do not meet the definition of acquisition costs are recognized as expense when they are incurred.

67. The revenue stream against which deferred acquisition costs are amortized consists of the expected future income from differences between assumed experience and amounts credited or charged to the policy. All assumptions as to future experience

would include provisions for adverse deviation. Also, since these revenue margins vary with the contract value, assumptions regarding the rate of interest credits, mortality, withdrawals, and the pattern of gross premium payments are required.

68. Prospective method. Similar to the retrospective method, the prospective method would recognize no income at issuance of the contract and it would recognize no portion of the income as a percentage of premiums. It accomplishes this by employing assumptions in the determination of the liability for future policy benefits that will result in a net premium substantially equal to the gross premium. That is, any profit margin in the net premium is eliminated by "loading" the assumptions with provisions similar to the provisions for adverse deviation. Income will then be recognized as actual experience varies from these loaded assumptions.

69. The assumptions and provisions in those assumptions will determine the expected pattern of reported income. For example, a level investment return margin may tend to defer income recognition, while heavily loaded early termination assumptions may move income recognition to early policy years under most dynamic techniques of amortizing deferred acquisition costs. Use of level termination rates combined with level or increasing investment return margins may defer income recognition.

Composite Approach

70. Some have proposed an approach generally similar in method to the premium approach. However, this approach, referred

to here as the "composite approach," would attempt to identify the significant risks and functions performed under the contract by the insurance enterprise and assign portions of the total expected income to those risks and functions.

71. The revenue basis used for recognizing income may vary by type of policy, depending on the relative importance of each function or service being performed (such as, sales, premium collection, protection, investment, conservation), and the relative magnitude of the related risks. The apportioning of the expected profit margins to particular risks or functions is accomplished by the use of larger-than-normal provisions in the assumptions similar to the provisions for the risk of adverse deviation. In applying the composite approach, the net premium used in calculating the liability for future policy benefits is determined by first including normal provisions for adverse deviation in the assumptions. Then, additional provisions are included in the assumptions in order that income will be recognized in appropriate relation to the significant risks and functions. Thus, net premiums under the composite approach would be greater than the net premiums obtained by the premium approach using most likely assumptions and adequate provisions for adverse deviation. The portion of income that would be related to premium revenue recognition would be represented by the difference between the gross premium and the net premium. Thus, the portion of the income that would be recognized as a percentage of premium revenues ordinarily would be less than that for traditional products under the premium approach.

72. The primary performance and risk elements in a universal life insurance contract ordinarily relate to premium receipt, mortality, interest, withdrawals, expenses, and other factors. The mortality function and risk, for example, are included in the revenue basis by incorporating an additional provision in the mortality assumption. A portion of the income would then be expected to be recognized in relation to the net amount at risk. Similarly, investment functions and risk are recognized by placing an additional provision in the investment yield assumption, thereby causing some income to be recognized in relation to invested funds. Similar provisions in withdrawal and expense assumptions would cause a portion of the income to be recognized in relation to those functions. As in the premium approach, the portion of the income that are assigned to premiums would be the difference between the gross premium and the net premium determined after including the provisions described above.

73. To apply the composite approach, the contract and its features should be analyzed to identify the relative levels of risks and functions performed. Ordinarily, premium receipt would not be the predominant function of a universal life insurance contract. In some circumstances premium receipt may not be considered a significant factor in the performance under the contract (for example, because of uncertainty of future premium levels under the contract) so that the net premium is set equal to the gross premium and no income would be recognized

as a percentage of premiums. The expected income used in the determination would be based on reasonably conservative assumptions of expected future premiums levels, mortality charges, interest credit rates, and other features of the contract in addition to the assumptions described in paragraph 22 through 26 of FASB Statement No. 60. Thus, it would be necessary to distinguish lump-sum premiums from the premiums that are reasonably expected to be received on a continuing basis. Application of the method also requires the consideration of unearned mortality charges and accrued interest credits in determining the basis for calculation of the liability.

74. Sources of income under the composite approach would consist of --

- Income arising from the release of normal provisions for the risk of adverse deviation.
- Gains or losses arising from differences between actual and expected experience.
- Income recognized in proportion to the revenue basis. A portion would be recognized as a level percent of gross premium, as appropriate, and a portion would be recognized from the release of the additional provisions forming part of the revenue basis.

Other Approaches

75. In the absence of authoritative guidance on the appropriate method to account for universal life insurance, many companies have been using methods that are relatively easy to implement,

but not necessarily theoretically sound. In the past, universal life insurance may have been a relatively small portion of the business, so the selection of the method may not have materially affected overall results.

76. The most commonly used of these simplified methods is to maintain the gross contract value as the liability for future policy benefits (as in the retrospective method), and amortize deferred acquisition costs over a relatively easily established basis. The deferred acquisition costs might be amortized in proportion to expected future premiums, the cost of insurance, or in proportion to minimum premiums.

77. Other companies have used methods that calculate the increase in the liability for future policy benefits in such a way as to produce a "reasonable" amount of income as a percentage of the premium.

Views on Income Recognition

78. The basic accounting issue regarding annuities, universal life insurance, and similar products is when should income be recognized. Very briefly, the opposing views are --

- The general approach originally described in the audit guide continues to be appropriate, and that approach can be adapted to these new products. A portion of the income should be recognized as a percentage of premiums. Different accounting methods should not be required for specific types of insurance products.

- o Premiums are not an appropriate basis for recognizing income on annuities, universal life, or similar products. The audit guide did not contemplate or adequately address contracts with flexible benefits or flexible or irregular premiums.

Views on Profit Recognition for Annuities

79. Although some income may be derived from surrender charges or other charges, the main source of income to the insurance company under an annuity contract generally is the interest margin. The interest margin is the difference between investment income earned by the insurance company on funds held and the interest credited to annuity contract values. When an insurance company issues an insurance contract, it undertakes certain risks, and one of the features of accounting under the audit guide is the concept of income recognition related to "release from risk." Some believe that an insurance company should recognize the interest margins as income when, and to the extent that, realization is assured; that is, to the extent that there is no risk the margins will not be realized. Others believe that interest margins should be recognized as income over the term of the contract as investment income is earned and as interest expense is credited to accumulated contract values.

80. Those who support the risk concept of income recognition believe that, for the insurance company, the earnings process is complete when there is no risk that interest margins will not be realized. For example, suppose an insurance company accepts a single premium and agrees to credit interest to the

annuity contract value at a rate of 10%. At the same time, the company invests the premium in a 12% bond of the same maturity as the annuity. Some believe that if the insurance company is guaranteed that it will maintain that 2% margin, (that is, there is no risk that the annuitant will withdraw from the contract, that there is no risk that the company will be forced to liquidate the bond at a loss before it matures, and so forth), the company's earnings process is complete, and it should recognize the interest margin as income.

81. It would generally be unlikely (and some believe impossible) that realization of the entire interest margin would be guaranteed when the contract is issued. However, some believe that a portion of the margin may be assured of realization, and to that extent income should be recognized. The concept of adverse deviation in life insurance accounting involves the conservative assumption that actual experience will deviate from expected results. The audit guide states:

> In each accounting period, a company realizes actual experience with respect to [its] assumptions; in the process, a portion of the risk of adverse experience is removed. The process of assuming these risks and gradually being relieved from such risks represents an essential function or service performed by a life insurance company. The risks of adverse deviations from which the company is relieved during an accounting period, therefore, constitute an important measure of performance that should be recognized in determining the timing of the recognition of premium revenues and related costs. The inclusion of a provision for the risk of adverse deviations in arriving at reasonably conservative assumptions will cause some profits to emerge over the life of the contract as risks are eliminated in that...in the absence of adverse deviations in investment yield, some profits will emerge in relation to invested funds or investment income. (page 68)

82. Some therefore believe that the timing of the recognition of interest spreads should depend on the establishment of appropriate provisions for adverse deviation in the investment yield assumption. Income would then be recognized over the term of the contract as the company is relieved of the investment risk. The most conservative application of this concept would be the use of the break-even interest rate described earlier with respect to the prospective accounting practice. Income would then be recognized only as earned interest is actually realized over the contract term.

83. Others believe that the earnings process is not complete merely because realization of the income is assured. They believe that interest margins, as with other types of interest revenues and expenses, should be recognized over the time the related funds are invested. APB Statement No. 4 states, "Revenue from permitting others to use enterprise resources, such as interest, rent, and royalties, is also governed by the realization principle. Revenue of this type is recognized as time passes or as the resources are used." Investment income and interest expense relate to the use of money over time, and they should be recognized as time passes. For annuities, this would result in the recognition of income over the duration of the contract in proportion to the investment services performed. This result, they believe, is consistent with the accounting for other types of long-term contracts, and it is consistent with the stated objective of the audit guide.

84. Those opposed to the recognition of income as a percentage of annuity premiums believe that such a practice results in the anticipation of interest margins. This result is particularly evident in single-premium deferred annuities, but it may also occur in flexible-premium deferred annuities and (though perhaps to a lesser extent) in other annuities.

85. Some believe that the deposit approach may not appropriately recognize a portion of the income in relation to mortality risk under certain annuity contracts. Unlike universal life insurance contracts, there is no separate mortality charge under annuity contracts. During the premium-paying period (the deferred phase) of an annuity contract, mortality risk is generally low. Many contracts provide that if a policyholder dies during the deferred phase, the accumulated contract value will be returned, and surrender charges will be waived. Thus, there may be a risk that the insurance company may not recover its acquisition costs. Proponents of the deposit approach believe that this risk is appropriately recognized through the amortization of deferred acqusition costs, which includes assumptions regarding surrender charges and withdrawals. During the payout phase, the mortality risk is that an annuitant may live longer and receive more benefits than expected. This risk is considered in determining the interest rate to be credited to contract values (or the amount of benefits to be paid from contract values), and proponents of the deposit approach believe the risk is appropriately recognized as the interest margins are realized.

Views on Profit Recognition for Universal Life Insurance

Premium Approach

86. Some believe that the accounting guidance from the audit guide continues to be appropriate for all long-duration life insurance products including universal life insurance. Thus, they believe that the collection of premiums continues to be an appropriate basis for recognizing income.

87. Those who hold this view argue that universal life insurance is a variation on traditional life insurance products such as ordinary life insurance. The same services and functions are performed under each product, and, therefore, the same method of income recognition is appropriate.

88. Those who support the premium approach believe that premiums are a reasonable measure of performance under a universal life insurance contract. They believe that the receipt of a premium is a significant event under the contract, and this event should be recognized by associating a portion of the income with the recognition of the premium. They believe that the stream of future premiums can be reasonably estimated to provide an acceptable basis for recognizing income. They also believe that the other assumptions required to apply the premium approach to universal life (investment yields, interest credits, benefit options and amounts, mortality, withdrawals, and so forth) are not essentially different from the types of assumptions necessary for traditional products.

89. Proponents of the premium approach believe that this approach has operated satisfactorily and has become accepted in the industry. They believe that the use of different accounting approaches for life insurance products would create confusion for both users and preparers of financial statements. They believe that because of the many various designs and features of products offered by different companies, it would be very difficult, and perhaps impossible, to distinguish between the types of products that would require different accounting treatments. They also believe that the use of a different method for universal life insurance would unnecessarily bring into question the continued use of the premium approach for traditional products.

90. Some proponents of the premium approach may agree that the recognition of any substantial portion of the income as a percentage of premiums may be inappropriate for products such as single-premium deferred annuities or other lump-sum premium contracts. However, they believe that the potential for similar accounting problems is significantly less for annual-premium products such as universal life insurance. They believe that, rather than change the accounting model, the major issue involved can be resolved by addressing the accounting for lump-sum premiums.

Composite Approach

91. Those who favor the composite approach agree with many of the arguments expressed by proponents of the premium

approach. They view the composite approach as an adaptation of current standards that accomodates the flexible features of universal life insurance but that does not redefine the insurance accounting model.

92. Proponents of the composite approach view universal life insurance as essentially similar to traditional life insurance products. They believe that the use of a significantly different basis of accounting for universal life insurance (such as the deposit approach) would create a major and unwarranted discontinuity in reported results for companies with a mix of traditional and universal life insurance business.

93. The designs of universal life products vary considerably. Some products may feature relatively high interest credits but impose service charges. Some may have relatively low mortality charges but also offer lower interest credits. Some may have front-end charges to recover costs while others may rely on back-end charges. Proponents of the composite approach believe that in order to have comparable accounting for all those contracts, the contracts should be accounted for in their entirety; they should not be "unbundled" into individual cost and revenue items. The composite approach attempts to identify the relative importance of the various functions provided under a universal life contract and recognizes the total expected income on the contract in relation to those functions. It does this through the selection of appropriate provisions in the various assumptions used in accounting for the contract.

94. Proponents of the composite approach believe that the nature and extent of the mortality and interest guarantees (that is, the nonguaranteed nature of the eventual costs and benefits of the contract), and the continual nature of the underwriting and investment management services (that is the constant repricing of existing business through mortality charges and interest credits) suggest that it is inappropriate to completely rely on gross premiums to measure the services or functions performed by an insurance company under a universal life insurance contract. However, they believe that the practices prescribed by the audit guide and FASB Statement No. 60 were not intended to place predominant reliance on gross premiums to determine income recognition. They view the addition of provisions to the various liability and expense assumptions as a means of recognizing income on a basis other than predominantly on gross premiums. They believe that additional conservatism is warranted for universal life insurance contracts due to the added uncertainties regarding persistency and investment performance, and other factors, but they view the deposit approach as an overreaction.

95. Proponents of the composite approach believe that, from an income recognition standpoint, the receipt of premiums is more important for an insurance contract than is the receipt of cash in a sale of goods on credit or for a long-term construction contract, for example. In those transactions, there is a binding obligation on the customer to pay cash in the future in a specified amount; therefore the recognition of the income

need not be tied to the receipt of the cash. There is no such obligation on a policyholder. Therefore, the receipt of the premium is a significant event from the standpoint of release from risk as well as beginning the investment process, an important element in the functions performed for the policyholder.

96. Proponents of the composite approach believe that universal life insurance contracts should be accounted for by identifying the primary performance and risk elements of the contract (that is, premium receipt, mortality, investment, and expense elements). They believe that factors such as product design, distribution system, target market and sales approaches, and the degree to which future experience can be reasonably estimated should be considered in determining the appropriate accounting for various insurance products. They believe that the additional conservatism needed for flexible premium and benefit products such as many universal life insurance contracts should be incorporated in income recognition through the addition of appropriate provisions in the assumptions.

97. Proponents of the composite approach believe that appropriate handling of lump-sum premiums and adequate disclosure are two key elements in assuring a consistent and conservative approach in accounting for universal life insurance contracts. If those matters are resolved, the composite approach will produce reasonable results without a complete restructuring of the insurance accounting model. Proponents of the composite approach believe that premiums received in excess of those premium levels

that can reasonably be expected to be received on a continuing and long-term basis (that is, lump-sum premiums) should be accounted for as in the deposit approach with no income recognized on receipt of the lump-sum premium. Proponents of the composite approach also believe that adequate information can be provided to users of financial statements through disclosures of the methods and assumptions used and, possibly, additional disclosures such as the percentage of the total expected income recognized on receipt of premiums.

98. Some proponents of the composite approach believe that if the premium is not the basis for recognizing a portion of the income, consideration should be given to revising the income statement format for insurance companies. Otherwise, under the deposit approach, the current income statement format would report revenues (that is, premiums) that bear no direct relation to income from operations. They believe that this may be particularly confusing to users if companies' income statements report results for both traditional and universal life insurance contracts.

Deposit Approaches

99. Proponents of the deposit approach believe that life insurance products have changed significantly since the audit guide was developed. They believe that, for universal life insurance, the collection of premiums is not an appropriate basis for recognizing income, especially for contracts with flexible benefits or flexible or irregular premium payments. They believe that all income should be recognized as it is

realized over the contract term from such sources as interest margins, mortality margins, and expense margins. They believe that in this way income would be recognized in proportion to the risks and functions performed under the contract. They believe that the methods that recognize a portion of the income as a percentage of premium and that determine the liability based on an investment yield rate result in anticipation of investment income. Some proponents of the deposit approach also believe that the liability that should be reported by the insurance company is the accumulated value of the contracts. They believe that other methods would report a liability less than the amount that is currently available to policyholders.

100. Universal life insurance contracts are "umbundled" into elements such as service charges, mortality charges, the contract value, and interest credits. This unbundling permits income related to those items to be recognized in the periods that the events or transactions occur that cause the income to be realized by the company. Some proponents of the deposit approach view the portion of the premium that is credited to the contract fund as essentially a deposit that earns interest for the policyholder. To the extent that a company earns investment income in excess of this interest expense for a period, the company should recognize income. They believe that it is not appropriate to base the determination of the liability (and thus the expense) on the company's investment yield rate, when the rate at which interest is credited to contract values can be explicitly determined. Similarly, to the extent that a company

receives service charges or mortality charges in excess of related costs for a period, the company should recognize income. Those revenues and expenses are also explicitly determinable under the contract. Thus, income can be recognized each period over the term of the contract in direct relation to performance under the contract. Reported income in any one period under the deposit approach would not be significantly affected by the payment of lump-sum premiums, the suspension of premiums, or other variations from expected premiums, since income is not recognized as a percentage of premiums.

101. Proponents of the deposit approach believe that it is possible and desirable to objectively measure income recognition for universal life insurance without relying extensively on assumptions of future events. They agree that methods such as the composite approach could achieve acceptable and comparable income recognition patterns. However, they believe that such methods could just as easily produce unacceptable results because those methods rely so heavily on subjective judgment about future experience, the apportionment of the income to various functions and risks, and the selection of the assumptions to achieve that apportionment. Proponents of the deposit approach doubt whether it is possible to adequately define how the various assumptions and provisions should be selected to assure consistent, reasonable, and comparable results under the premium or composite approaches. They believe that those approaches are unnecessarily complex and that it will be more difficult for users to understand and analyze the effects of the methods and assumptions used to account

for universal life insurance. A deposit approach would require assumptions as to future revenues for purposes of amortizing the deferred acquisition costs, but the effects of those assumptions on reported results would not be as significant as under the other methods.

102. Proponents of the deposit approach for accounting for universal life insurance acknowledge the difficulty of defining the types of contracts to which different accounting methods should apply. In particular, fixed-premium universal life insurance can be very similar to whole life insurance products. They believe, however, that the products for which traditional accounting methods are most likely to produce unreasonable results are the flexible-premium products, and those can be readily distinguished from the traditional fixed-premium, fixed-benefit products. They also note that universal life insurance is fast supplanting traditional life insurance as the predominant form of long-duration insurance contract for many stock life insurance companies.

Dynamic Adjustment of Assumptions

103. All of the proposed accounting approaches for universal life insurance depend, to varying extents, on the continued reasonableness of assumptions regarding the features of the policy. Those assumptions include future premiums, death benefit levels, mortality and other charges, and interest credit rates. If the features of the contract change significantly from original assumptions, the income recognition pattern and the pattern of amortization of deferred acquisition costs could be significantly distorted.

104. The assumptions used in determining the liability for future policy benefits and amortization of deferred acquisition costs could be "unlocked" when the features of the contract are changed. The unlocking of assumptions in similar circumstances for nonguaranteed-premium contracts is discussed in an earlier section of this paper. Under the deposit approach, the liability for future policy benefits is based on the accumulated value of the contract fund, and in this way, actual experience would be incorporated in the liability valuation process. Under any method, the reasonableness of the basis for amortization of deferred acquisition costs should be continually evaluated in light of actual experience.

Lump-Sum Premiums

105. Many universal life insurance contracts, particularly the flexible-premium contracts, permit the policyholder to make premium payments in excess of the premiums required to keep the contract in force or in excess of the premiums expected to be paid on a continuing basis. Lump-sum premiums may be paid at any time during the contract term, but they are more likely to occur in the early years of the contract. Unless special consideration is given, the receipt of lump-sum premiums by the insurance company could significantly affect the pattern of reported income on universal life insurance. Even under the deposit approach, which does not recognize any portion of income as a percentage of premiums, lump-sum premiums could affect the amortization of deferred acquisition costs, since

the level of investment income assumed in determining the future revenue stream on which the amortization is based depends on assumptions about future premiums.

106. Lump-sum premiums could be defined as premiums under a particular contract in excess of premium payments that the insurance company has a reasonably conservative expectation of receiving on a continuing and long-term basis. Because of the flexible nature of universal life insurance, the limited experience with these products, and the possibility that experience under these market-sensitive products can be significantly affected by changes in the economy, it may be difficult to exactly define lump-sum premiums. However, some have suggested that the "guideline level premiums" specified by IRS regulations may provide a useful measure of the maximum amount of the premium that could be expected to be received on a continuing and long-term basis.

107. Some believe that the treatment of lump-sum premiums is the only unique accounting issue for universal life insurance and annuities that was not adequately addressed in the audit guide. They believe that current accounting standards for long-duration contracts should not be changed, but that special guidance is needed to prevent distortion of the income recognition pattern on the receipt of lump-sum premiums. To accomplish this, they suggest that the amount of expected income that may be recognized as a percentage of premiums should be limited to the amount that would be recognized as if the contract required level pre-

miums to be payable for twenty years to provide the guaranteed (some might say expected) death benefits under the contract. The balance of the expected income would be recognized in the form of additional provisions in the determination of the net premium. A twenty-year basis is used in certain statutory valuation practices, and it has traditionally been considered a reasonable measure of the premium-paying period of an ordinary life insurance contract.

108. Some believe that, regardless of the method used, no portion of income should be recognized as a percentage of lump-sum premiums. They argue that lump-sum premiums are paid only at the discretion of the policyholder; thus they believe that the receipt of lump-sum premiums does not relate to any significant function or performance by the insurance company. They also argue that the lump-sum premiums are credited immediately to the contract value (which may have an effect on benefit levels). Therefore, they believe that any income related to lump-sum premiums should appropriately be recognized as margins related to the investment and, perhaps, mortality functions.

109. Some believe that premiums should not be distinguished between lump-sum premiums and the normally recurring premiums. They believe that the receipt of any premium is a significant event under the contract and that is appropriate to recognize a portion of the income as a percentage of the premiums. They further believe that future premiums, including lum-sum premiums, can be reasonably estimated and should be included in the determination of income recognition.

110. Some believe that the concept of lump-sum premiums should be applied to products such as single-premium whole life insurance, and similar products in which the premium-paying period is such that the contract is essentially a lump-sum premium contract. They believe that the application of current accounting methods to such products can result in an inordinate portion of the total income on the contract being recognized at the issue date of the contract. Advocates of the twenty-pay limit for the current accounting model would apply the limit to all long-duration contracts, including limited-payment life insurance. They believe that this approach would result in more comparable reporting for all long-duration contracts regardless of their premium-payment provisions and without the need to redefine the accounting model for specific products.

Disclosure

111. FASB Statement No. 60, paragraph 60(b) requires disclosure of "the methods and assumptions used in estimating the liability for future policy benefits with disclosure of the average rate of assumed investment yields in effect for the current year encouraged." Some believe that additional guidance on disclosure for universal life insurance is desirable.

112. Some believe that more specific disclosure is needed regarding a company's method of accounting for universal life insurance. They believe that such disclosures should provide

information useful in analyzing the income recognition practice being used for universal life insurance. Among the disclosures that have been suggested are the following:

- The relative portion of total expected income that is recognized as a percentage of premiums. Some believe that, in order to provide a useful comparison, the corresponding number for the company's traditional life insurance contracts should also be disclosed.
- The assumed investment margin used in determining the liability for future policy benefits. As an alternative, disclosure might be made of the company's assumed investment yields in the current period and the current rates at which interest is credited to contract values.
- The extent to which the accumulated contract values exceed the liability for future policy benefits.

113. The relationships among contract values, the liability for future policy benefits, and income recognition are also affected by a company's practices regarding capitalization and amortization of acquisition costs. FASB Statement No. 60 requires disclosure of "the nature of acquisition costs capitalized, the method of amortizing those costs, and the amount of those costs amortized for the period." Some believe that if the deposit approach is adopted, disclosure should be made of the assumptions used in determining the amortization. Paragraph 31 of FASB Statement No. 60 requires that the same assumptions used in estimating the liability for future policy benefits should be used in amortizing acquisition costs. Under the deposit approach,

however, determination of the liability does not require such assumptions, but is based on accumulated contract values.

ADVISORY CONCLUSIONS

Annuities

114. In accounting for annuities (other than variable annuities), the deposit approach should be followed. No income should be recognized when the contract is issued, and no portion of the total expected income should be recognized as a percentage of premiums. Rather, all income from a contract should be recognized over the term of the contract. The liability for future policy benefits should be equal to gross accumulated contract values before adjustment for contractual surrender charges, if any. Surrender charges should be recognized in income in the period in which the related surrender occurs. In applying the deposit approach, either the retrospective or prospective method (as described in paragraphs 54 through 59) should be followed.

115. Acquisition costs (as defined in FASB Statement No. 60) not immediately recovered from front-end loads should be capitalized and amortized in relation to reasonably anticipated investment margins, expense charges, and surrender charges. This will require the use of assumptions regarding death of the contractholder and full and partial surrenders of available accumulated contract values. The resulting amortization should be made sensitive to the actual termination experience of the business.

116. Provisions of FASB Statement no. 60 relating to the recognition of premium deficiencies on long-duration contracts and other relevant provisions of that Statement should continue to apply. Variable annuity contracts should continue to be accounted for in accordance with paragraphs 53 and 54 of FASB Statement No. 60 (see also pages 82 and 83 of the audit guide for additional background).

117. The advisory conclusion that the deposit approach should be followed for annuities was approved by a majority of AcSEC (9 yes, 4 no, 2 absent) and by majorities of the Insurance Companies Committee (9 yes, 3 no) and the Nonguaranteed-Premium Products Task Force (5 yes, 1 no). The minorities favor the composite approach. They believe that it is preferable that the same accounting approach be followed for all products of life insurance enterprises. They also believe that the deposit approach does not give appropriate recognition to the premium collection function or to the mortality risks, which they believe may be significant under certain annuity contracts.

Universal Life Insurance

118. In accounting for universal life insurance contracts, the composite approach should be followed. Income should be recognized over the term of the contract in proportion to the insurance enterprises's risks and functions under the contract, which ordinarily relate to investment, mortality, expenses, terminations, and premium collection. In applying the composite

approach, the net premium should be determined by first including normal, conservative provisions for adverse deviation in the assumptions regarding investment yields, mortality, terminations, and expenses, as described in FASB Statement No. 60, paragraphs 21 through 26, and then by including additional provisions in the assumptions in order that income will be recognized in an appropriate relation to the relative significance of the risks and functions. In the absence of evidence to the contrary, it should be presumed that the dominant risk and function relates to investment, and income should be associated with investment in proportion to its dominance. The portion of total income, if any, remaining after the association with the various risks and functions through the provisions described above (represented by the excess, if any, of the gross premium over the net premium) will be recognized in direct relation to premium revenues. In the absence of evidence to the contrary, it should be presumed that premium collection is not a significant function under the contract, and thus the income recognized in direct relation to premium revenues should not be a significant portion of the total expected income under the contract. (In addition, see paragraph 120 regarding the recognition of income in relation to lump-sum premiums under universal life insurance and other contracts.)

119. In addition to the assumptions regarding investment yields, mortality, terminations, and expenses, reasonably conservative assumptions are required regarding expected future premium levels, mortality charges, interest credit rates, and other

features of the contract. Actual experience regarding those contract features should be considered in evaluating the continuing reasonableness of the assumptions, and adjustments to prospective assumptions should be made as necessary to maintain a consistent and reasonable pattern of income recognition.

120. The advisory conclusion that the composite approach should be followed for universal life insurance contracts was approved by AcSEC (13 yes, 0 no, 2 absent) and by majorities of the Insurance Companies Committee (8 yes, 4 no) and the Nonguaranteed-Premium Products Task Force (5 yes, 1 no). The minorities of the committee and the task force favor the deposit approach.

Lump-Sum Premiums

121. The amount of expected income that may be recognized as a percentage of the premiums collected in any one period under a particular contract should be limited to the amount that would be recognized had level premiums been payable for twenty years to provide the guaranteed death benefits under the contract. The balance of the expected income should be recognized over the contract term through the inclusion of additional provisions in the determination of the net premium. This limitation applies to universal life insurance and to other long-duration life insurance contracts with lump-sum premiums, including single-premium whole life insurance.

ACCOUNTING FOR INTERNAL REPLACEMENT TRANSACTIONS

122. For the same reasons that universal life insurance may be attractive to new policyholders, persons with existing traditional policies may be encouraged to replace them with universal life insurance contracts. Because of competitive pressures, efforts to retain policyholders, and other reasons, a major source of new universal life policyholders for some companies has been their policyholders with existing traditional policies.

123. Ordinarily, when policyholders surrender life insurance contracts, the insurance company will write off related deferred acquisition costs and also recognize in income the difference between the surrender value and the release of reserves (that is, the elimination of the liability for future policy benefits). The issue has been raised whether it is appropriate for a life insurance company to immediately recognize in income the costs that arise when its policyholders replace their existing contracts with universal life insurance contracts with the same company. The issues that arise are --

- How should the costs of internal replacement be defined?
- Should the costs of replacement be deferred?
- If the costs are deferred, how should they be amortized?
- How should the recoverability of deferred costs of internal replacement be determined?

Costs of Internal Replacement

124. Alternative definitions have been proposed for the costs of internal replacement of life insurance contracts. Some would define the costs as the sum of the unamortized deferred acquisition costs related to the original contract and the difference between the cash values transferred to the new contract and the benefit reserves released for the original contract. Others would define the costs of internal replacement as the sum of the unamortized deferred acquisition costs related to the original contract and the difference between the reserves released for the original contract and the reserve established for the new contract.

125. Some believe that if the second definition were used and the costs were based on the new reserves rather than the cash transferred to the new policy, special treatment would be needed for the front-end charges assessed on the universal life contract. Normally, the front-end charges assessed on the contract are applied to reduce the first-year acquisition costs (such as agents' commissions). The net acquisition costs would then be deferred. The use of the second definition, however, would implicitly net the front-end charges against the loss associated with the original contract, and would result in the deferral of the gross acquisition costs. Some believe that the use of the first definition of the cost of internal replacement therefore, would be more consistent with the accounting for new contracts.

Deferral of Costs of Internal Replacement

126. Some believe that it is appropriate to defer the costs of internal replacement and amortize those costs over the term of the new contract. They believe that the costs of replacement should not be accounted for as an expense of the period of the replacement. They argue that the replacement should not be viewed as the surrender of a contract because the purpose of the replacement is to retain the relationship with the existing policyholder. From the policyholder's perspective, the replacement represents only a change in the form of the future protection. From the company's perspective, the costs represent an additional investment in the policyholder to maintain the future revenue stream and to prevent the outflow of cash due to surrender of the contract.

127. Companies often consider the unrecovered costs related to the original contract in determining the pricing of the replacement contract. Companies may not pay full first-year sales commissions on replacement business, and they may expect to use the additional profit margin to recover the previously deferred costs. Thus, some believe that it is appropriate to recognize the costs of internal replacement over the term of the new contract since those costs are an integral element of the income of the new contract.

128. Proponents of deferral believe that failure to defer the costs will distort the pattern of income recognition on the contract. They believe that a current loss followed by

higher than normal income in future periods is not consistent with the continuing nature of the relationship with the policyholder. They note that such a result could be viewed as a violation of the loss recognition concepts of FASB Statement No. 60, which states in paragraph 36, "No loss shall be reported currently if it results in creating future income."

129. Proponents of deferral also believe that the costs of internal replacement meet the definition of acquisition costs in FASB Statement No. 60. Paragraph 28 defines acquisition costs that should be deferred as "those costs that vary with and are primarily related to the acquisition of new and renewal insurance contracts."

Amortization of Deferred Costs of Internal Replacement

130. FASB Statement No. 60, paragraph 29 states that to amortize deferred acquisition costs, "acquisition costs shall be allocated by groupings of insurance contracts consistent with the enterprise's manner of acquiring, servicing, and measuring the profitability of its insurance contracts." It would be necessary to similarly allocate the deferred costs of internal replacement by groupings of contracts. In practice, the definitions of groupings for purposes of amortizing deferred acquisition costs can vary considerably. Some specifically relate acquisition costs to narrowly defined groups. For example, when the amortization is determined as a part of the calculation of reserves, the groups are, in effect, each plan and age of insurance. Some companies use worksheet amortization and associate the costs with broadly defined groups.

131. While the groupings for new business may be defined in various ways, the costs of internal replacement can be specifically identified with previously existing contracts and new universal life insurance contracts. Some, therefore, believe that the deferred costs of internal replacement should be amortized against future revenues from the replacement business itself.

132. The contract features and expected future experience for replacement business may likely differ from those for universal life business from other sources. Commission rates and front-end charges may, for example, differ for new and replacement business. Also, assumptions regarding factors such as persistency, mortality, and future premiums are likely to differ for replacement business since they relate to continuing policyholders rather than new policyholders. Investment yield assumptions may also differ because replacement will not make available new cash for investment, but, rather, existing investment assets will be carried over to the replacement contracts. These and other factors require special consideration in determining the amortization of deferred costs of internal replacement.

133. Some believe that broader groupings, such as all universal life contracts issued in the year, may be used for purposes of amortizing the deferred costs. Such broader groupings may be acceptable if the amortization calculations appropriately recognize the different contract features and assumptions for replacement business and the effects of aggregation and averaging generally inherent in the worksheet amortization methods.

Recoverability of Deferred Costs of Internal Replacement

134. FASB Statement No. 60 requires that the recoverability of deferred costs be considered, and it requires that a charge to income be recognized if a premium deficiency exists. In evaluating the recoverability of deferred costs, insurance contracts are grouped, although some believe it may not always be necessary or appropriate to use the same groups that were used in determining the amortization of the costs. In general, the following possible groups can be identified as the business from which the costs of internal replacement may be recovered:

- Replacement universal life contracts issued in the year.
- All universal life contracts issued in the year.
- All life insurance contracts issued in the year.

135. Replacement universal life insurance contracts issued in the year would be the narrowest definition of a group of business, and some believe it may often by the most appropriate. For example, a company with an active internal replacement program may believe that this group most reasonably recognizes the unique characteristics of the replacement business. It may recognize important considerations such as the special relationship between the yields on invested assets supporting the replacement business and the current or future interest rates expected to be credited to policyholders. It would also recognize the different mortality and withdrawal experience expected from replacement business and the differing acquisition and commission costs associated with internal replacement business.

136. Some companies may choose all universal life contracts issued in the year as the source of profit margins from which to recover the deferred replacement costs. They believe this may be justified because it may be consistent with past definitions of groups of business, which may not have recognized different market sources. Companies choosing this option may believe that the separation of replacement and nonreplacement business would be an unwarranted segmentation of the business of a particular product line. They view the costs of internal replacement as costs that were incurred as a result of the decision to enter the universal life insurance market. They would associate total acquisition costs, including costs of internal replacement, with the complete univeral life contracts issued in a particular year to recover the deferred costs of replacement, as well as normal acquisition costs. However, special assumptions reflecting the portion of the total universal life group that is replacement business would still be required in recoverability tests.

137. Implicit in the above views is the notion that the universal life insurance contracts are sufficiently different from traditional ordinary products that they should not be combined for purposes of recoverability analyses. Universal life business may, of course, be divided into further groups to recognize inherent marketing and experience differences of different universal life products.

138. In evaluating recoverability, some would not make a distinction between universal life insurance and traditional

ordinary business. They view universal life insurance as one more step in the evolution of insurance products. They view the costs of internal replacement simply as the costs incurred in acquiring new business, and, as such, include those costs in the deferral decisions and recoverability tests of the total line. Others believe that universal life insurance is sufficiently different in marketing and compensation method, expected premium and withdrawal experience, inherent policyholder flexibility, and the level of risks assumed, that it should not be included with the traditional ordinary line of business for purposes of recoverability analyses.

139. The recoverability tests described in this section are based on the concept that costs should be deferred if they are recoverable from an appropriate related group of business, and costs that are not recoverable should be written off. An alternative that has been considered by some companies is that costs should be deferred only to the extent that profit margins on the replacement contracts will be comparable to contracts with new policyholders. Costs in excess of these amounts would be written off.

140. Others believe that this practice is not consistent with the requirements of FASB Statement No. 60. As those requirements generally are applied in current practice, costs would be deferred so long as any profit margin remains. Costs would be written off only if all profit margins, including provisions

for adverse deviation, were eliminated. Some also believe that practical difficulties are likely both in determining "normal" profit margins and in applying the method when profit margins on replacement business prior to considering replacement costs are less than those "normal" margins. In the latter instance, all replacement costs will be recognized in the current period, and this may significantly affect current and future earnings.

ADVISORY CONCLUSIONS

141. Internal replacement of traditional life insurance contracts with universal life insurance should not result in the recognition of income or loss at the date of the replacement except as described in the paragraph below. The costs of internal replacement should be considered to be the sum of unamortized deferred acquisition costs related to the original contract and the difference between the cash value transferred to the new contract and the liability for future policy benefits released from the original contract. Those costs should be amortized over the term of the replacement contract in the same manner as deferred acquisition costs.

142. A loss should be recognized if there is a premium deficiency relating to the contracts. The method of determining and accounting for premium deficiencies for long-duration insurance contracts is described in paragraphs 35 through 37 of FASB Statement No. 60. Also, paragraph 32 states, "Insurance contracts shall be grouped consistent with the enterprise's manner of acquiring, servicing, and measuring the profitability of its

insurance contracts to determine if a premium deficiency exists." For determining whether a premium deficiency exists relating to replacement contracts, contracts ordinarily would be grouped, at most, as all universal life insurance issues of the period. In any case, consideration should be given to the special characteristics of the internal replacement contracts in establishing the assumptions used to determine any premium deficiency (see paragraph 132).

GLOSSARY

Note: Definitions marked by an asterisk (*) are taken from FASB Statement No. 60. Definitions marked by two asterisks (**) are taken from the AICPA audit guide, Audit of Stock Life Insurance Companies.

Acquisition costs - Cost incurred in the acquisition of new and renewal insurance contracts. Acquisition costs include those costs that vary with and are primarily related to the acquisition of insurance contracts (for example, agent and broker commissions, certain underwriting and policy issue costs, and medical and inspection fees).*

Annuity contract - A contract that provides fixed or variable periodic payments made from a stated or contingent date and continuing for a specified period, such as for a number of years or for life. Also refer to variable annuity contract.* [See paragraphs 15-19 for a description of annuity contracts.]

Annuity, deferred - An annuity which will begin on a future date either at the expiration of a fixed number of years or at the attainment of a stated age.**

Annuity, immediate. - An annuity, purchased with a single payment, beginning currently.**

Bail-out provision - A waiver of surrender charges that would otherwise be assessed on termination of a contract if declared interest rates used in the accumulation of gross contract values fall below a specified rate.

Benefit - Any payment made under the terms of an insurance policy.**

Contract value - The balance of a fund consisting of premiums paid by the policyholder from which certain expense charges have been

deducted and to which interest has been credited.

Dividends to policyholders - Amounts distributable to policyholders of participating insurance contracts as determined by the insurer. Under various state insurance laws, dividends are apportioned to policyholders on an equitable basis. The dividend alloted to any contract often is based on the amount that the contract, as one of a class of similar contracts, has contributed to the income available for distribution as dividends.*

Excess interest - The excess of interest credited by an insurance company over the amount guaranteed.**

Gross premium - The premium charged to a policyholder for an insurance contract. Also refer to net premium.*

Guaranteed renewable policy - A health insurance policy which the insured has the right to continue in force by the timely payment of premiums which coincides approximately with the average working lifetime (for federal income tax purposes at least until age 60), with the right reserved to the insurer to make changes in premium rates by classes.**

Interest margin or spread - the difference between an insurance company's return on invested funds and the interest credited to contract values.

Liability for future policy benefits - An accrued obligation to policyholders that relates to insured events, such as death or disability. The liability for future policy benefits can be viewed as either (a) the present value of future benefits to be paid to or on behalf of policyholders and expenses less the present value of future net premiums payable under the insurance contracts of (b) the accumulated amount of net premiums already

collected less the accumulated amount of benefits and expenses already paid to or on behalf of policyholders.*

Limited-payment contract - See whole-life contract.

Long-duration contract - An insurance contract that generally is not subject to unilateral changes in its provisions, such as a noncancellable or guaranteed renewable contract, and requires the performance of various functions and services (including insurance protection) for an extended period.*

Lump-sum premium - In general, a premium under a particular contract in excess of the premium payments that an insurance company has a reasonably conservative expectation of receiving on a continuing and long-term basis.

Maintenance costs - Costs associated with maintaining records relating to insurance contracts and with the processing of premium collections and commissions.*

Morbidity - The relative incidence of disability due to disease or physical impairment.*

Mortality - The relative incidence of death in a given time or place.*

Mortality charge - Under a universal life insurance contract, a periodic charge against the contract value for life insurance coverage.

Net premium - As used in this Statement [FASB Statement No. 60] for long-duration insurance contracts, the portion of the gross premium required to provide for all benefits and expenses.*

Nonguaranteed-premium contract - A long-duration contract under which the insurance company is permitted to periodically change the gross premium rate.

Ordinary life insurance contract - See whole-life contract.

Participating insurance - Insurance in which the policyholder is entitled to participate in the earnings or surplus of the insurance enterprise. The participation occurs through the distribution of dividends to policyholders.*

Risk of adverse deviation - A concept used by life insurance enterprise in estimating the liabiltiy for future policy benefits relating to long-duration contracts. The risk of adverse deviation allows for possible unfavorable deviations from assumptions, such as estimates of expected investment yields, mortality, morbidity, terminations, and expenses. The concept is referred to as risk load when used by property and liability insurance enterprises.*

Settlement option - A choice of an alternative method of payment of the proceeds of an insurance or annuity policy, by the insured or his beneficiary, in lieu of the basic method of payment provided in the policy. Usually a settlement option envisages annuity or installment payments even if the basic method of payment provides for a lump-sum settlement.**

SPDA - Single-premium deferred annuity.

Stock life insurance companies - Companies which operate for the purpose of obtaining profit for their stockholders. In general, stock life insurance companies issue nonparticipating policies, but some also issue participating policies.**

Surrender charge - A charge deducted by the insurance company from gross accumulated contract value in the event of withdrawal of funds from the contract by the policyholder.

Termination - In general, the failure to renew an insurance contract. Involuntary terminations include death, expirations, and maturities

of contracts. Voluntary terminations of life insurance contracts include lapses with or without cash surrender value and contract modifications that reduce paid-up whole-life benefits or term-life benefits.*

Termination rate - The rate at which insurance contracts fail to renew. Termination rates usually are expressed as a ratio of the number of contracts on which insureds failed to pay premiums during a given period to the total number of contracts at the beginning of the period from which those terminations occurred. The complement of the termination rate is persistency, which is the renewal quality of insurance contracts, that is, the number of insureds that keep their insurance in force during a period. Persistency varies by plan of insurance, age at issue, year of issue, frequency of premium payment, and other factors.*

Traditional life insurance - Various types of life insurance contracts under which the amounts of premiums and face amount cannot be varied at the discretion of the policyholder.

Universal life insurance contract - In general, a type of life insurance contract under which premiums paid by the policyholder (less certain expense charges, if any) are credited to a fund from which are deducted periodic charges for life insurance coverage and to which interest is credited. [See paragraphs 21-27 for a description of universal life insurance contracts.]

Variable annuity contract - An annuity in which the amount of payments to be made are specified in units, rather than in dollars. When payment is due, the amount is determined based on the value of the investments in the annuity fund.*

Whole-life contract - Insurance that may be kept in force for a person's entire life by paying one or more premiums. It is paid for in one of three different ways: (a) ordinary life insurance (premiums are payable as long as the insured lives), (b) limited-payment life insurance (premiums are payable over a specified number of years), and (c) single-premium life insurance (a lump-sum amount paid at the inception of the insurance contract). The insurance contract pays a benefit (contractual amount adjusted for items such as policy loans and dividends, if any) at the death of the insured. Whole-life insurance contracts also build up non-forfeiture benefits.*

APPENDIXES

APPENDIX A

Illustration of Application of Proposed Accounting Methods to Single-Premium Deferred Annuities

The draft issues paper presents the income which would be reported under various accounting practices for a unit of single premium deferred annuity business. Illustrated accounting practices include the premium approach, the retrospective practice, and the prospective practice. Relevant assumptions and details of the reserve and deferred acquisition cost calculations are presented below.

Pricing Assumptions

- Plan and issue age

  A $1,000 unit of single-premium deferred annuity, issued at age 45, for an average premium of $20,000.

- Surrender charges

  7% in policy year 1, decreasing 1% each year thereafter, to zero in years 8 and up. These charges do not apply to the first 10% of the account value cashed-out each year, nor do they apply on death or annuitization.

- Termination rates

  Mortality: 1965-70 male ALB ultimate.

  Full withdrawals: 4% each year.

  Partial withdrawals: 2% of the account value at the end of each policy year.

  Annuitizations: 100% at the end of 15 years, none before. This simplified approach was taken to obviate the complication of separate profit studies for policies in a payout status. It is equivalent to assuming that the annual profits realized before annuitization are the same as those realized after annuitization. It does, however, ignore any profits to be earned more than 15 years after issue.

- Interest rates

  Earned rate: 15.5% each year.

  Credited rate: The earned rate less 1.5% in all years.

  Discount rate: The earned interest rate is used to discount future profits.

- Commissions and expenses:

  Commissions: A basic rate of 3% of premium, plus a 1% override, for a total of 4%.

  Acquisition expenses: 2.687% of premium.

  Maintenance expenses: $2.50 per $1,000 unit in year 1, increased by 10% each year thereafter.

These assumptions were used to project gross accumulated account and cash values and to compute calendar year cash flows. The results of these calculations are shown in Exhibits A and B, respectively. Projected cash flows and gross accumulated account values were used in preparing the reserve and deferred acquisition cost balances pursuant to the illustrated accounting practices. Specific reserve and deferred acquisition cost calculations are described below. In addition, the development of reported GAAP earnings for the various practices is also presented.

Premium Approach

The net reserve under the premium approach is equal to the present value of future benefits and expenses using assumptions containing appropriate provision for adverse deviation. For purposes of these examples, it was assumed unnecessary to include such provisions in assumptions other than interest earned. The reserves under this accounting practice are based on an assumed interest rate of 15.25%, compared to the pricing

assumption of 15.5%. The rate credited to contract values, of course, remains 14.0%. The calculation of the reserves at calendar durations and their relationship to corresponding gross accumulated account values is shown in Exhibit C.

Reported income is developed by combining projected cash flow with projected reserve increases and interest thereon. These calculations are shown in Exhibit D.

Prospective Practice

The net reserve under the prospective practice was determined in a manner consistent with the general procedures employed by the premium approach. The sole difference is the use of an earned rate of interest which results in the present value of benefits and expenses being equal to the gross premium at issue. This calculation excludes non-deferrable acquisition expenses, which would be recognized at issue. These expenses are also excluded from the income illustration for simplicity's sake, but it should be understood that the presence of non-deferrable acquisition costs and general overhead, both of which are excluded from GAAP reserve calculations, will lead to a loss at the time of issue.

Projected cash values and basic contract values are those discussed earlier and included in Exibits A and B. The calculation of the prospective reserves was performed using computer programs which determined the interest rate which would equate the present value of benefits and expenses to the gross premium, which was, in this case, approximately 15.0%. This rate of interest was then used to determine all subsequent reserves, which are simple present values of future benefits and expenses.

The results of these calculations are shown in Exhibit E, which presents the cash flow projections and the reserve calculations. Exhibit F combines the expected cash flow with the reserve changes and related interest to obtain reported GAAP income under the prospective accounting practice.

Retrospective Practice

Under this accounting practice, benefit reserves are maintained in amounts equal to the gross accumulated account values, before consideration of the possible surrender charge recoveries. These values have been developed previously and are displayed in Exhibit A.

Acquisition and other costs are included in the calculation of the deferred acquisition cost asset to achieve the objective of recognizing expenses in excess of front-end loads in proportion to expected interest margins and surrender charge recoveries, if any. Exhibit G presents this computation. Exhibit H combines the reserve (the gross accumulated account value, prior to surrender charges) and the deferred acquisition cost asset for input into the computer program which generates GAAP income. The computation of the net reserve is presented on Exhibit H. Resulting GAAP income reported pursuant to the retrospective accounting practice is presented on Exhibit I.

Description of Input/Output Headings

EXHIBIT A

Input Assumptions and Basic Contract Values

T:	Policy year.
QX+T-1:	Mortality rate applicable to policy year T.
WX+T-1:	Full withdrawal rate applicable to policy year T.
PWX+T-1:	Partial withdrawal rate applicable to policy year T.
WCX+T-1:	Annuity election rate applicable to policy year T.
LX+T-1:	Proportion of unit issued which remains inforce at the beginning of policy year T. Inforce is affected by mortality, full withdrawal, and annuity election assumptions. Partial withdrawals do not affect persisting units.
LX+T-.5:	Proportion of unit issued which remains inforce at the end of calendar year T.
TSCX:	Surrender charge applicable in policy year T.
TIA:	Annual interest rate credited to contract values.
TAVX:	Gross accumulated account value at end of policy year T, prior to surrender charge.
TCVA:	Surrenderable cash value at end of policy year T.
TGPX:	Gross premium.
TI:	Annual interest rate earned.
TE(UNIT):	Maintenance expenses per unit at the beginning of policy year T.

EXHIBIT A

INPUT ASSUMPTIONS AND BASIC CONTRACT VALUES

SAMPLE LIFE INSURANCE COMPANY - SPDA

RUN DATE: 5/ 5/82 PAGE 1
RUN TIME: 121 8145

ISSUE AGE: 45 15 YEARS TO MATURITY AVERAGE SIZE: 20.000 UNITS

ACQUISITION EXPENSES: .06687 X PREMIUM PLUS .00 PER UNIT FREE PARTIAL WITHDRAWALS OF 10.00 PERCENT

T	QX†T-1	WX†T-1	WCX†T-1	LX†T-1	LX†T-.5	PWX†T-1	TSCX	TIA	TAVX	TCVX	TQPX	TI	TE(UNIT)
1	0.003810	0.0400	0.0000	1.000000	0.998095	0.0200	0.0700	0.140	1140.00	1068.18	1000.00	0.155	2.50
2	0.004210	0.0400	0.0000	0.956342	0.954329	0.0200	0.0600	0.140	1273.61	1204.83	0.00	0.155	2.75
3	0.004670	0.0400	0.0000	0.914224	0.912089	0.0200	0.0500	0.140	1422.87	1358.85	0.00	0.155	3.02
4	0.005220	0.0400	0.0000	0.873556	0.871276	0.0200	0.0400	0.140	1589.44	1532.41	0.00	0.155	3.33
5	0.005840	0.0400	0.0000	0.834236	0.831800	0.0200	0.0300	0.140	1775.94	1727.99	0.00	0.155	3.66
6	0.006510	0.0400	0.0000	0.796190	0.793598	0.0200	0.0200	0.140	1984.08	1948.37	0.00	0.155	4.03
7	0.007170	0.0400	0.0000	0.759366	0.756644	0.0200	0.0100	0.140	2216.62	2196.67	0.00	0.155	4.43
8	0.007870	0.0400	0.0000	0.723765	0.720917	0.0200	0.0000	0.140	2476.40	2476.40	0.00	0.155	4.87
9	0.008440	0.0400	0.0000	0.689346	0.686368	0.0200	0.0000	0.140	2766.64	2766.64	0.00	0.155	5.34
10	0.009540	0.0400	0.0000	0.656054	0.652925	0.0200	0.0000	0.140	3090.89	3090.89	0.00	0.155	5.89
11	0.010400	0.0400	0.0000	0.623804	0.620498	0.0200	0.0000	0.140	3453.14	3453.14	0.00	0.155	6.48
12	0.011800	0.0400	0.0000	0.592504	0.589008	0.0200	0.0000	0.140	3857.85	3857.85	0.00	0.155	7.13
13	0.013080	0.0400	0.0000	0.562092	0.558416	0.0200	0.0000	0.140	4309.99	4309.99	0.00	0.155	7.86
14	0.014420	0.0400	0.0000	0.532550	0.528710	0.0200	0.0000	0.140	4815.12	4815.12	0.00	0.155	8.43
15	0.015800	0.0400	0.9600	0.503876	0.499895	0.0000	0.0000	0.140	5379.45	5379.45	0.00	0.155	9.49

Description of Input/Output Headings

EXHIBIT B

Cash Flow

T:	Calendar year.
PREM:	Collected premium.
ACQ:	Acquisition expenses incurred.
MAINT:	Maintenance expenses incurred.
DEATHS:	Death benefits incurred.
FULL WITH:	Full withdrawal benefits incurred.
PART WITH:	Partial withdrawal benefits incurred.
ANNUIT:	Annuity election benefits incurred.
CF:	Cash flow.

EXHIBIT B

CASH FLOW

SAMPLE LIFE INSURANCE COMPANY - SPDA

ISSUE AGE: 45 15 YEARS TO MATURITY AVERAGE SIZE: 20.000 UNITS

ACQUISITION EXPENSES: .06687 X PREMIUM PLUS .00 PER UNIT FREE PARTIAL WITHDRAWALS OF 10.00 PERCENT

T	PREM	ACQ	MAINT	DEATHS	FULL WITH	PART WITH	ANNUIT	CF
0	1800.00	66.87	0.00	0.00	0.00	0.00	0.00	933.13
1	0.00	0.00	2.50	1.90	0.00	0.00	0.00	-4.40
2	0.00	0.00	2.63	4.42	42.56	21.80	0.00	-71.42
3	0.00	0.00	2.77	5.23	45.90	23.29	0.00	-77.18
4	0.00	0.00	2.91	6.22	49.46	24.86	0.00	-83.44
5	0.00	0.00	3.05	7.42	53.27	26.52	0.00	-90.24
6	0.00	0.00	3.21	8.84	57.33	28.28	0.00	-97.65
7	0.00	0.00	3.36	10.44	61.65	30.13	0.00	-105.58
8	0.00	0.00	3.53	12.22	66.24	32.09	0.00	-114.08
9	0.00	0.00	3.69	14.28	71.13	34.14	0.00	-123.25
10	0.00	0.00	3.87	16.72	75.63	36.30	0.00	-132.52
11	0.00	0.00	4.04	19.49	80.34	38.56	0.00	-142.63
12	0.00	0.00	4.23	23.25	85.25	40.92	0.00	-153.64
13	0.00	0.00	4.41	27.38	90.35	43.37	0.00	-165.52
14	0.00	0.00	4.60	32.06	95.64	45.91	0.00	-178.20
15	0.00	0.00	4.78	37.27	101.09	48.52	0.00	-191.67
16	0.00	0.00	0.00	21.41	106.71	0.00	2561.04	-2689.16
PV	1000.00	66.87	20.89	66.72	347.38	164.94	294.91	38.30

Description of Input/Output Headings

EXHIBIT C

Reserve Development

Premium Approach

T: Calendar year.

CF: Cash flow.

MEAN ANN. VALUE (UNIT IN FORCE, UNIT ISSUED): Gross accumulated account values at end of calendar year T, per unit remaining inforce and per original unit issued, respectively.

RESERVE PCT MV: GAAP reserve expressed as a percentage of the MEAN ANN. VALUE.

GAAP RESERVE (UNIT INFORCE, UNIT ISSUED): GAAP reserves at end of calendar year T, per unit remaining inforce and per original unit issued, respectively. Equal to the product of RESERVE PCT MV and MEAN ANN. VALUE.

EXHIBIT C

RESERVE DEVELOPMENT
PREMIUM APPROACH

SAMPLE LIFE INSURANCE COMPANY - SPBA

ISSUE AGE: 45 15 YEARS TO MATURITY AVERAGE SIZE: 20.000 UNITS

ACQUISITION EXPENSES: .06687 X PREMIUM PLUS .00 PER UNIT FREE PARTIAL

NITNBRAUALB OF 10.00 PERCENT

T	CF	$$MEAN ANN. UNIT IN FORCE	VALUE$$ UNIT ISSUED	RESERVE PCT MV	$$GAAP RESERVE$$ UNIT IN FORCE	UNIT ISSUED
0	933.13	1000.00	1000.00	0.913210	913.21	913.21
1	-4.40	1067.71	1065.67	0.915518	977.51	975.64
2	-71.42	1192.84	1138.37	0.920405	1097.90	1047.76
3	-77.18	1332.64	1215.49	0.925296	1233.09	1124.69
4	-83.44	1488.83	1297.18	0.930189	1384.89	1206.62
5	-90.26	1663.32	1383.55	0.935082	1555.34	1293.73
6	-97.65	1858.26	1474.71	0.939979	1746.73	1386.20
7	-105.58	2076.05	1570.83	0.944883	1961.63	1484.25
8	-114.08	2319.36	1672.07	0.949802	2202.94	1588.13
9	-123.25	2591.19	1778.51	0.954738	2473.91	1698.01
10	-132.52	2894.88	1890.14	0.960085	2779.33	1814.70
11	-142.63	3234.16	2006.79	0.965878	3123.81	1938.31
12	-153.64	3613.21	2128.21	0.972163	3512.62	2068.96
13	-165.52	4036.67	2254.14	0.978994	3951.88	2206.79
14	-178.20	4509.77	2384.36	0.986436	4448.60	2352.02
15	-191.67	5038.32	2518.63	0.994562	5010.92	2504.93
16	-2689.14					
PV	30.30		9989.65			9395.27

Description of Input/Output Headings

EXHIBIT D

Reported Income

Premium Approach

T: Calendar year.

CF: Cash flow.

MEAN ANN. VALUE (UNIT IN FORCE, UNIT ISSUED): Gross accumulated account values at end of calendar year T, per unit remaining inforce and per original unit issued, respectively.

RESERVE PCT MV: GAAP reserve expressed as a percentage of the MEAN ANN. VALUE.

GAAP RESERVE (UNIT IN FORCE, UNIT ISSUED): GAAP reserves at end of calendar year T, per unit remaining inforce and per original unit issued, respectively. Equal to the product of RESERVE PCT MV and MEAN ANN. VALUE.

INC RESERVE: Increase in reserves.

INT ON RESERVE: Interest earned on the reserves.

GAAP PROFIT: Reported GAAP income.

PV OF PROFITS AT ISSUE: Present value of annual profits at date of issue, using the assumed earned interest rate used in pricing.

EXHIBIT D
REPORTED INCOME
PREMIUM APPROACH

SAMPLE LIFE INSURANCE COMPANY - SPDA

ISSUE AGE: 45 15 YEARS TO MATURITY AVERAGE SIZE: 20.000 UNITS

ACQUISITION EXPENSES: .04687 X PREMIUM PLUS .00 PER UNIT FREE PARTIAL WITHDRAWALS OF 10.00 PERCENT

		$$MEAN ANN. VALUE$$			$$GAAP RESERVE$$$					PV OF
T	CF	UNIT IN FORCE	UNIT ISSUED	RESERVE PCT NV	UNIT IN FORCE	UNIT ISSUED	INC RESERVE	INT ON RESERVE	GAAP PROFIT	PROFITS AT ISSUE
0	933.13	1000.00	1000.00	0.913210	913.21	913.21	913.21	0.00	19.92	19.92
1	-4.40	1067.71	1065.67	0.915518	977.51	975.64	62.43	67.82	0.90	20.90
2	-71.42	1192.84	1138.37	0.920405	1097.90	1047.76	72.11	145.73	2.19	22.80
3	-77.18	1332.64	1215.49	0.925296	1233.09	1124.49	76.93	156.46	2.35	24.57
4	-83.44	1488.83	1297.18	0.930189	1384.89	1206.62	01.94	167.90	2.53	26.21
5	-90.26	1663.32	1383.55	0.935082	1555.34	1293.73	87.11	180.08	2.71	27.73
6	-97.65	1858.26	1474.71	0.939979	1746.73	1384.20	92.47	193.02	2.90	29.14
7	-105.58	2074.05	1570.83	0.944883	1961.63	1484.25	98.05	206.74	3.11	30.45
8	-114.08	2319.34	1672.07	0.949802	2202.94	1588.13	103.80	221.29	3.33	31.66
9	-123.25	2591.19	1778.51	0.954738	2473.91	1698.01	109.88	236.69	3.56	32.79
10	-132.52	2894.88	1890.14	0.960085	2779.33	1814.70	116.68	253.01	3.80	33.83
11	-142.43	3234.14	2006.79	0.965878	3123.81	1938.31	123.62	270.32	4.07	34.79
12	-153.44	3613.21	2128.21	0.972163	3512.62	2068.96	130.65	288.64	4.34	35.68
13	-165.52	4036.67	2254.14	0.978994	3951.88	2204.79	137.83	307.90	4.63	36.50
14	-170.20	4509.77	2384.36	0.986436	4448.60	2352.02	145.23	328.37	4.94	37.24
15	-191.67	5038.32	2518.63	0.994562	5010.92	2504.93	152.91	349.05	5.24	37.96
16	-2689.16						-2504.93	107.14	2.91	38.30
PV	38.30		9989.65			9395.27	1223.32	1223.32	38.30	

EXHIBIT E

RESERVE DEVELOPMENT
PROSPECTIVE METHOD

ISSUE AGE: 45 15 YRS. TO MATURITY AVERAGE VOLUME 20,000 UNITS

ACQUISITION COSTS: .06687 X PREMIUM + .00 PER UNIT

FREE PARTIAL WITHDRAWALS OF 10 PERCENT

YEAR	PREMIUM	ACQUISITION COST	MAINTENANCE COST	DEATHS	FULL WITHDRAWAL	PARTIAL WITHDRAWAL	ANNUITY	CASH FLOW	GAAP RESERVE	MEAN VALUE	RESERVE PCT. OF MV
0	1000	66.87	0	0	0	0	0	933.13	933.13	1000.00	.9331
1		0	2.50	1.90	0	0	0	- 4.40	997.79	1067.71	.9345
2		0	2.63	4.42	42.56	21.80	0	- 71.42	1119.70	1192.84	.9387
3		0	2.77	5.23	45.90	23.29	0	- 77.18	1256.40	1332.64	.9428
4		0	2.91	6.22	49.46	24.86	0	- 83.44	1409.67	1488.83	.9468
5		0	3.05	7.42	53.27	26.52	0	- 90.26	1581.50	1663.32	.9508
6		0	3.21	8.84	57.33	28.28	0	- 97.65	1774.12	1858.26	.9547
7		0	3.36	10.44	61.65	30.13	0	- 105.58	1990.01	2076.05	.9586
8		0	3.53	12.22	66.24	32.09	0	- 114.08	2231.97	2319.36	.9623
9		0	3.69	14.28	71.13	34.14	0	- 123.25	2503.11	2591.19	.9660
10		0	3.87	16.72	75.63	36.30	0	- 132.52	2808.03	2894.88	.9700
11		0	4.01	19.69	80.34	35.56	0	- 142.63	3151.12	3234.16	.9743
12		0	4.23	23.25	85.25	40.92	0	- 153.64	3537.38	3613.21	.9790
13		0	4.41	27.38	90.35	43.37	0	- 165.52	3972.52	4036.67	.9841
14		0	4.60	32.06	95.64	45.81	0	- 178.20	4463.10	4508.77	.9896
15		0	4.78	37.29	101.09	46.52	0	- 191.67	5016.65	5038.32	.9957
16		0	0	21.41	106.71	0	2561.04	-2689.16			
PV	1000	66.87	20.89	66.72	347.38	164.94	294.81	38.30			

EXHIBIT F

REPORTED INCOME
PROSPECTIVE METHOD

ISSUE AGE: 45 15 YRS. TO MATURITY AVERAGE VOLUME 20,000 UNITS

ACQUISITION COSTS: .06678 X PREMIUMS + .00 PER UNIT

FREE PARTIAL WITHDRAWALS OF 10 PERCENT

		-MEAN ANNUAL VALUE-								
YEAR	CASH FLOW	UNITS IN FORCE	UNITS ISSUED	RESERVE AS PCT. OF MV	UNITS IN FORCE	UNITS ISSUED	IND RESERVE	INTEREST ON RESERVE	GAAP PROFIT	PV OF PROFITS AT ISSUE
0	- 933.13	1000.00	1000.00	.9331	933.13	933.13	933.13	0	0	0
1	- 4.40	1067.71	1065.67	.9345	997.79	995.89	62.76	69.23	2.07	2.06
2	- 71.42	1192.54	1138.37	.9387	1119.70	1068.56	72.67	148.68	4.60	6.04
3	- 77.18	1332.64	1215.49	.9428	1256.40	1145.95	77.39	159.49	4.93	9.74
4	- 83.44	1488.87	1297.18	.9468	1409.67	1228.21	82.27	170.99	5.29	13.17
5	- 90.26	1663.32	1383.55	.9508	1581.50	1315.49	87.28	183.21	5.66	16.35
6	- 97.65	1858.26	1474.71	.9547	1774.12	1407.94	92.44	196.15	6.06	19.30
7	- 105.58	2076.05	1570.83	.9586	1990.01	1505.73	97.79	209.86	6.49	22.03
8	- 114.08	2319.36	1672.07	.9623	2231.97	1609.06	103.33	224.35	6.93	24.56
9	- 123.25	2591.18	1776.51	.9660	2503.11	1716.06	108.99	239.64	7.41	26.90
10	- 132.52	2894.88	1890.14	.9700	2808.03	1833.44	115.38	255.81	7.91	29.06
11	- 142.63	3234.16	2006.79	.9743	3151.12	1955.26	121.83	272.90	8.44	31.06
12	- 153.64	3613.21	2128.21	.9790	3537.38	2038.54	128.28	290.92	8.99	32.90
13	- 165.52	4036.67	2254.14	.9841	3972.52	2218.32	134.77	309.87	9.58	34.60
14	- 178.20	4509.77	2384.36	.9896	4463.10	2359.69	141.37	329.76	10.19	36.17
15	- 191.67	5038.32	2518.63	.9957	5016.65	2507.90	146.11	350.62	10.84	37.61
16	-2689.16						-2507.80	187.36	5.99	38.30
PV	38.30		9989.65			9535.91	1240.74	1240.74	38.30	

EXHIBIT G

DEFERRED ACQUISITION COSTS

T	EXCESS INTEREST (1)	SURRENDER CHARGES (2)	TOTAL	EXPENSE LESS LOADS (3)	ASSET (4)
1	6.502	0	6.502	69.37	-69.515
2	14.407	2.862	17.269	2.63	-69.966
3	15.387	2.620	18.007	2.77	-70.112
4	16.425	2.330	18.755	2.91	-69.905
5	17.524	1.989	19.513	3.05	-69.288
6	18.685	1.591	20.276	3.21	-68.221
7	19.910	1.130	21.040	3.36	-66.631
8	21.200	.602	21.802	3.53	-64.465
9	22.559	0	22.559	3.69	-61.637
10	23.985		23.985	3.87	-57.607
11	25.478		25.478	4.04	-52.150
12	27.036		27.036	4.23	-45.040
13	28.654		28.654	4.41	-35.994
14	30.331		30.331	4.60	-24.711
15	32.062		32.062	4.78	-10.829
16	17.634		17.634	0	0.000

$$(1) = t\ (\text{MEAN ANN. VALUE}) \times \left(\frac{1}{1.14^{1/2}} - \frac{1}{1.155^{1/2}}\right)$$

$$+$$

$$t\text{-}1\ (\text{MEAN ANN. VALUE}) \times (1.15^{1/2} - 1.14^{1/2})$$

$$(2) = t\ (\text{FULL WITH}) \times \left[\frac{(T-1)AVX}{(T-1)CVX} - 1\right]$$

$$(3) = t\ (\text{ACQ}) + t\ (\text{MAINT}) \qquad (\text{no loads})$$

$$(4) = \left[(\text{Asset})t\text{-}1 \times 1.14^{1/2} - (\text{Expenses Less Loads})\ t + P \times (\text{Total})\ t\right] \times 1.14^{1/2}$$

Where $P = \dfrac{\text{Present value of Expenses less loads}}{\text{Present value of Total}}$, at 14%

$$P = \frac{89.278}{136.162} = .6557$$

EXHIBIT H

NET RESERVES
RETROSPECTIVE PRACTICE

T	Mean Ann. Value Per Unit Issued	Deferred Acquisition Cost Assets	Net Reserve Per Unit Issued
0	$1,000.00	$66.87 (1)	$ 933.13
1	1,065.67	69.52	996.16
2	1,138.37	69.97	1,068.40
3	1,215.49	70.11	1,145.38
4	1,297.18	69.90	1,227.28
5	1,383.55	69.29	1,314.26
6	1,474.71	68.22	1,406.49
7	1,570.83	66.63	1,504.20
8	1,672.07	64.47	1,607.60
9	1,778.51	61.64	1,716.87
10	1,890.14	57.61	1,832.53
11	2,006.79	52.15	1,954.64
12	2,128.21	45.84	2,083.17
13	2,254.14	35.99	2,218.15
14	2,384.36	24.71	2,359.65
15	2,518.63	10.83	2,507.80

(1) Initial acquisition expenses of $66.87

APPENDIX B

Illustration of the Application of Proposed Accounting Methods to Universal Life Insurance

UNIVERSAL LIFE ASSUMPTIONS

- Male, age 35.
- Actual mortality is the 1965-70 Basic Life Table.
- 20 years to maturity.
- Deferrable Acquisition Costs = $ 400.
- Maintenance Expenses of $35.
- Annual Specified Premium of $1000, paid at the beginning of the year.
- Lapses and deaths occur at the end of the year.
- Compensation of 51.3% in the first year, and 4% renewal years.
- These runs include no Non-Deferrable Expenses.
- Annual processing of the Accumulation Fund, ie. ,annual premiums, annual expense and mortality deductions and annual interest credits.
- Loads of 9% on all premiums, with an additional first year expense charge of $250.
- Mortality charges rate = 60% of 1958 CSO Mortality,grading to 79% by the 20th year.
- The Mortality Modification is the ratio of GAAP Mortality divided by Actual Mortality.
- There are three types of interest rates used:
  - The GAAP DISCOUNT RATE is the rate used for the net premium, reserve and asset calculations.
  - The ASSET EARNINGS RATE is the Investment Income rate.
  - [illegible]

DESCRIPTION OF OUTPUT HEADINGS

T: Policy Year t

WX+T-1 : Lapse rate for the t-th policy year.

QX+T-1 : Mortality rate for the t-th policy year.

LX+T-1 : Survivors at the beginning of the t-th policy year.
LX+T = (LX+T-1) * (1- (WX+T-1) - (QX+T-1))

MCX+T-1: Mortality charge rate deducted from the Accumulation Fund.

AFX+T : Per policy Accumulation Fund at end of the t-th policy year.

IAFX+T: Inforce Accumulation Fund at end of the t-th policy year.
=(AFX+T) * LX+T

MEX+T-1: Per policy Maintenance Expenses at beginning of the t-th policy year.

BRFX+T: Benefit Reserve Factor at the end of the t-th policy year.
=(GAAP Benefit Reserve)/ IAFX+T

MRFX+T: Maintenance Reserve Factor at the end of the t-th policy year.
=(GAAP Maintenance Reserve)/ IAFX+T

DAFX+T: DAC Factor at the end of the t-th policy year.
=(GAAP DAC Asset)/ IAFX+T

CAFX+T: Commission Asset Factor at the end of the t-th policy year.
=(GAAP Commission Asset)/ IAFX+T

PAGE A-3
8/30/1984 COMMON INPUT ASSUMPTIONS AND BASIC CONTRACT VALUES.

AGE IS : 35
SPECIFIED PREMIUM IS : 1000
SPECIFIED AMOUNT IS : 50000
PREMIUM LOAD(%): 9.00
INFLATION RATE(%): 0.00
FIRST YEAR EXPENSE CHARGE: 250

YEAR	WX+T-1	QX+T-1	LX+T-1	MCX+T-1	AFX+T	IAFX+T	MEX+T-1
1	.200	.000810	1.000000	.001506	643.17	514.02	35.00
2	.100	.001010	.799190	.001610	1621.05	1164.67	35.00
3	.050	.001210	.718464	.001736	2691.77	1834.91	35.00
4	.050	.001430	.681671	.001896	3863.27	2498.04	35.00
5	.050	.001660	.646613	.002080	5145.04	3154.98	35.00
6	.050	.001900	.613209	.002295	6547.33	3806.51	35.00
7	.050	.002160	.581383	.002534	8081.92	4453.61	35.00
8	.050	.002440	.551058	.002794	9762.29	5097.49	35.00
9	.050	.002750	.522161	.003080	11603.18	5739.13	35.00
10	.050	.003090	.494617	.003395	13621.11	6379.55	35.00
11	.050	.003480	.468358	.003745	15834.36	7019.53	35.00
12	.050	.003920	.443310	.004139	18263.23	7659.72	35.00
13	.050	.004470	.419407	.004579	20930.69	8300.31	35.00
14	.050	.005090	.396562	.005074	23862.53	8941.65	35.00
15	.050	.005730	.374715	.005624	27088.08	9584.64	35.00
16	.050	.006500	.353832	.006240	30640.63	10229.09	35.00
17	.050	.007170	.333841	.006924	34558.25	10877.38	35.00
18	.050	.007860	.314755	.007669	38884.81	11531.03	35.00
19	.050	.008640	.296543	.008494	43670.43	12190.77	35.00
20	.990	.009540	.279154	.009401	48973.02	130.42	35.00

Premium Approach (Percent of Premiums)

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YEAR	PREMIUM	INV INCOME	TOTAL	DEATH BENEFITS	SURR BENEFITS	BEN RESERVE	CHANGE IN RES	MAINT EXPENSES	MAINT RESERVE	CHANGE IN RES	DEFER EXPENSES	DEF ACQ ASSET
I	1000.00	-6.06	993.94	40.50	128.63	569.56	569.56	35.00	.00	.00	400.00	362.47
2	799.19	57.05	856.24	40.36	129.55	1064.05	494.49	27.97	.00	.00	.00	338.04
3	718.46	119.59	838.05	43.47	96.70	1592.93	528.89	25.15	.00	.00	.00	317.67
4	681.67	190.18	871.85	48.74	131.67	2123.15	530.21	23.86	.00	.00	.00	297.94
5	646.61	260.94	907.55	53.67	166.34	2656.79	533.65	22.63	.00	.00	.00	278.78
6	613.21	332.16	945.37	58.25	200.74	3196.15	539.36	21.46	.00	.00	.00	260.12
7	581.38	404.15	985.53	62.79	234.93	3743.39	547.24	20.35	.00	.00	.00	241.89
8	551.06	477.21	1028.27	67.23	268.98	4300.88	557.50	19.29	.00	.00	.00	224.00
9	522.16	551.65	1073.81	71.80	302.94	4870.98	570.10	18.28	.00	.00	.00	206.37
10	494.62	627.81	1122.43	76.42	336.86	5456.30	585.32	17.31	.00	.00	.00	188.91
11	468.36	706.03	1174.39	81.49	370.81	6059.29	602.99	16.39	.00	.00	.00	171.54
12	443.31	786.66	1229.97	86.89	404.81	6682.77	623.48	15.52	.00	.00	.00	154.15
13	419.41	870.08	1289.49	93.74	438.92	7328.68	645.91	14.68	.00	.00	.00	136.65
14	396.56	956.56	1353.12	100.92	473.15	8000.27	671.59	13.88	.00	.00	.00	118.91
15	374.72	1046.56	1421.27	107.36	507.52	8702.23	701.96	13.12	.00	.00	.00	100.82
16	353.83	1140.70	1494.53	115.00	542.08	9437.82	735.59	12.38	.00	.00	.00	82.25
17	333.84	1239.45	1573.29	119.68	576.85	10214.81	776.99	11.68	.00	.00	.00	63.05
18	314.75	1343.86	1658.61	123.70	611.96	11039.59	824.78	11.02	.00	.00	.00	43.07
19	296.54	1454.79	1751.34	128.11	647.51	11918.17	878.59	10.38	.00	.00	.00	22.12
20	279.15	1573.09	1852.24	133.16	13540.59	.00	-11918.17	9.77	.00	.00	.00	.00

CHANGE IN ASSET	COMP	DEF ACQ EXPENSE	CHANGE IN DAC	NON DEF EXPENSES	TOTAL	PROFIT (EOY)
362.47	513.33	428.93	428.93	.00	895.63	111.09
-24.43	31.97	400.02	-28.91	.00	777.67	88.78
-20.38	28.74	375.91	-24.11	.00	767.42	79.81
-19.73	27.27	352.56	-23.35	.00	804.83	75.73
-19.16	25.86	329.89	-22.67	.00	843.98	71.83
-18.66	24.53	307.81	-22.08	.00	885.08	68.12
-18.23	23.26	286.23	-21.58	.00	928.38	64.58
-17.89	22.04	265.06	-21.17	.00	974.09	61.22
-17.63	20.89	244.20	-20.86	.00	1022.48	58.01
-17.45	19.78	223.55	-20.65	.00	1073.80	54.95
-17.37	18.73	202.99	-20.56	.00	1128.35	52.03
-17.39	17.73	182.42	-20.58	.00	1186.39	49.25
-17.51	16.78	161.70	-20.72	.00	1248.25	46.59
-17.74	15.86	140.71	-20.99	.00	1314.14	44.05
-18.09	14.99	119.30	-21.41	.00	1384.43	41.63
-18.57	14.15	97.32	-21.98	.00	1459.75	39.31
-19.20	13.35	74.61	-22.72	.00	1540.47	37.09
-19.98	12.59	50.96	-23.65	.00	1627.67	34.97
-20.95	11.86	26.17	-24.79	.00	1722.18	32.96
-22.12	11.17	.00	-26.17	.00	1824.80	31.01

PRESENT VALUE AT: 0	PROFIT RATE	GAAP RATE	ASSET RATE
NET	547.13	496.33	496.33
PREMIUM	547.13	496.33	496.33
MORTALITY	.00	.00	.00
INTEREST	.00	.00	.00

Premium Approach (Percent of Premiums)

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INPUT ASSUMPTIONS AND BASIC CONTRACT VALUES

AGE IS :	35	GAAP DISCOUNT RATE(%):	13.000000	GAAP NET PREMIUMS:	
SPECIFIED PREMIUM IS :	1000	ASSET EARNINGS RATE(%):	13.000000	COMPENSATION:	.133753
SPECIFIED AMOUNT IS :	50000	ACCRUAL RATE(%):	10.000000	DEFERRABLE EXPENSES:	.079228
PREMIUM LOAD(%):	9.00	PROFIT AS % OF PREMIUM :	9.830811	BENEFIT:	.653711
INFLATION RATE(%):	.00	MORTALITY MODIFICATION(%):	100.000000	MAINTENANCE EXPENSES:	.035000
FIRST YEAR EXPENSE CHARGE:	250	INTEREST SPREAD(%) :	.000000	TOTAL	.901692

YEAR	WX+T-1	QX+T-1	LX+T-1	MCX+T-1	AFX+T	IAFX+T	MEX+T-1	BRFX+T	MRFX+T	DAFX+T	CAFX+T
1	.200	.000810	1.000000	.001506	643.17	514.02	35.00	1.108058	.000000	.705178	.834460
2	.100	.001010	.799190	.001610	1621.05	1164.67	35.00	.913604	.000000	.290249	.343462
3	.050	.001210	.718464	.001736	2691.77	1834.91	35.00	.868128	.000000	.173125	.204864
4	.050	.001430	.681671	.001896	3863.27	2498.04	35.00	.849924	.000000	.119268	.141134
5	.050	.001660	.646613	.002080	5145.04	3154.98	35.00	.842094	.000000	.088361	.104561
6	.050	.001900	.613209	.002295	6547.33	3806.51	35.00	.839654	.000000	.068336	.080864
7	.050	.002160	.581383	.002534	8081.92	4453.61	35.00	.840529	.000000	.054312	.064270
8	.050	.002440	.551058	.002794	9762.29	5097.49	35.00	.843727	.000000	.043943	.051999
9	.050	.002750	.522161	.003080	11603.18	5739.13	35.00	.848732	.000000	.035958	.042550
10	.050	.003090	.496617	.003395	13621.11	6379.55	35.00	.855280	.000000	.029612	.035041
11	.050	.003480	.468358	.003745	15834.36	7019.53	35.00	.863205	.000000	.024438	.028918
12	.050	.003920	.443310	.004139	18263.23	7659.72	35.00	.872456	.000000	.020125	.023815
13	.050	.004470	.419407	.004579	20930.69	8300.31	35.00	.882940	.000000	.016463	.019481
14	.050	.005090	.396562	.005074	23862.53	8941.65	35.00	.894720	.000000	.013298	.015736
15	.050	.005730	.374715	.005624	27088.08	9584.64	35.00	.907936	.000000	.010519	.012447
16	.050	.006500	.353832	.006240	30640.63	10229.09	35.00	.922646	.000000	.008040	.009514
17	.050	.007170	.333841	.006924	34558.25	10877.38	35.00	.939088	.000000	.005796	.006859
18	.050	.007860	.314755	.007669	38884.81	11531.03	35.00	.957381	.000000	.003735	.004420
19	.050	.008640	.296543	.008494	43670.43	12190.77	35.00	.977639	.000000	.001814	.002147
20	.990	.009540	.279154	.009401	48973.02	130.42	35.00	.000000	.000000	.000000	.000000

Deposit Approach -- Prospective (One-Half Blended Between Mortality and Interest)

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YEAR	PREMIUM	INV INCOME	TOTAL	DEATH BENEFITS	SURR BENEFITS	BEN RESERVE	CHANGE IN RES	MAINT EXPENSES	MAINT RESERVE	CHANGE IN RES	DEFER EXPENSES	DEF ACQ ASSET
1	1000.00	6.72	1006.72	40.50	128.63	649.92	649.92	35.00	.00	.00	400.00	362.43
2	799.19	77.72	876.91	40.36	129.55	1207.14	557.22	27.97	.00	.00	.00	337.58
3	718.46	147.51	865.97	43.47	96.70	1790.73	583.59	25.15	.00	.00	.00	316.70
4	681.67	224.88	906.55	48.74	131.67	2369.81	579.08	23.86	.00	.00	.00	296.51
5	646.61	301.67	948.28	53.67	166.34	2946.43	576.62	22.63	.00	.00	.00	276.93
6	613.21	378.17	991.38	58.25	200.74	3522.80	576.37	21.46	.00	.00	.00	257.90
7	581.38	454.68	1036.06	62.79	234.93	4100.81	578.01	20.35	.00	.00	.00	239.34
8	551.06	531.44	1082.50	67.23	268.98	4682.57	581.75	19.29	.00	.00	.00	221.17
9	522.16	608.75	1130.91	71.80	302.94	5269.98	587.41	18.28	.00	.00	.00	203.32
10	494.62	686.87	1181.48	76.42	336.86	5865.26	595.28	17.31	.00	.00	.00	185.70
11	468.36	766.10	1234.45	81.49	370.81	6470.22	604.96	16.39	.00	.00	.00	168.24
12	443.31	846.68	1289.99	86.89	404.81	7087.12	616.91	15.52	.00	.00	.00	150.83
13	419.41	928.95	1348.35	93.74	438.92	7716.88	629.76	14.68	.00	.00	.00	133.40
14	396.56	1013.02	1409.58	100.92	473.15	8362.30	645.41	13.88	.00	.00	.00	115.83
15	374.72	1099.28	1474.00	107.36	507.52	9028.13	665.84	13.12	.00	.00	.00	98.01
16	353.83	1188.39	1542.22	115.00	542.08	9717.15	689.02	12.38	.00	.00	.00	79.82
17	333.84	1280.72	1614.56	119.68	576.85	10438.02	720.87	11.68	.00	.00	.00	61.09
18	314.75	1377.45	1692.21	123.70	611.96	11197.34	759.32	11.02	.00	.00	.00	41.67
19	296.54	1479.48	1776.03	128.11	647.51	12001.32	803.99	10.38	.00	.00	.00	21.38
20	279.15	1587.67	1866.83	133.16	13540.59	.00	-12001.32	9.77	.00	.00	.00	.00

CHANGE IN ASSET	COMP	DEF ACQ EXPENSE	CHANGE IN DAC	NON DEF EXPENSES	TOTAL	PROFIT (EOY)
362.43	513.33	428.87	428.87	.00	976.09	30.62
-24.84	31.97	399.47	-29.40	.00	841.31	35.60
-20.88	28.74	374.76	-24.71	.00	823.23	42.74
-20.19	27.27	350.87	-23.89	.00	854.71	51.84
-19.58	25.86	327.70	-23.17	.00	887.87	60.41
-19.03	24.53	305.18	-22.52	.00	922.92	68.46
-18.56	23.26	283.21	-21.97	.00	959.87	76.19
-18.17	22.04	261.72	-21.50	.00	998.96	83.54
-17.85	20.89	240.59	-21.12	.00	1040.28	90.63
-17.62	19.78	219.75	-20.84	.00	1084.11	97.37
-17.46	18.73	199.08	-20.67	.00	1130.52	103.93
-17.40	17.73	178.49	-20.59	.00	1179.85	110.14
-17.43	16.78	157.86	-20.63	.00	1231.94	116.42
-17.57	15.86	137.07	-20.79	.00	1287.59	121.99
-17.82	14.99	115.98	-21.09	.00	1347.72	126.28
-18.20	14.15	94.45	-21.53	.00	1412.36	129.86
-18.73	13.35	72.29	-22.16	.00	1483.32	131.24
-19.42	12.59	49.31	-22.98	.00	1560.98	131.23
-20.29	11.86	25.30	-24.01	.00	1646.15	129.88
-21.38	11.17	.00	-25.30	.00	1740.04	126.79

PRESENT VALUE AT: 0 PROFIT	RATE	GAAP RATE	ASSET RATE
NET	539.71	539.71	496.33
PREMIUM	.00	.00	.00
MORTALITY	264.53	264.53	248.17
INTEREST	275.18	275.18	248.17

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INPUT ASSUMPTIONS AND BASIC CONTRACT VALUES

AGE IS :	35	GAAP DISCOUNT RATE(%):	11.978430	GAAP NET PREMIUMS:	
SPECIFIED PREMIUM IS :	1000	ASSET EARNINGS RATE(%):	13.000000	COMPENSATION:	.130627
SPECIFIED AMOUNT IS :	50000	ACCRUAL RATE(%):	10.000000	DEFERRABLE EXPENSES:	.076586
PREMIUM LOAD(%):	9.00	PROFIT AS % OF PREMIUM :	.000000	BENEFIT:	.757788
INFLATION RATE(%):	.00	MORTALITY MODIFICATION(%):	174.051500	MAINTENANCE EXPENSES:	.035000
FIRST YEAR EXPENSE CHARGE:	250	INTEREST SPREAD(%) :	1.021570	TOTAL	1.000000

YEAR	WX+T-1	QX+T-1	LX+T-1	MCX+T-1	AFX+T	IAFX+T	MEX+T-1	BRFX+T	MRFX+T	DAFX+T	CAFX+T
1	.200	.000810	1.000000	.001506	643.17	514.02	35.00	1.264400	.000000	.705088	.834354
2	.100	.001010	.799190	.001610	1621.05	1164.67	35.00	1.036464	.000000	.289852	.342992
3	.050	.001210	.718464	.001736	2691.77	1834.91	35.00	.975925	.000000	.172599	.204242
4	.050	.001430	.681671	.001896	3863.27	2498.04	35.00	.948667	.000000	.118697	.140458
5	.050	.001660	.646613	.002080	5145.04	3154.98	35.00	.933897	.000000	.087776	.103869
6	.050	.001900	.613209	.002295	6547.33	3806.51	35.00	.925467	.000000	.067752	.080173
7	.050	.002160	.581383	.002534	8081.92	4453.61	35.00	.920784	.000000	.053740	.063592
8	.050	.002440	.551058	.002794	9762.29	5097.49	35.00	.918603	.000000	.043388	.051342
9	.050	.002750	.522161	.003080	11603.18	5739.13	35.00	.918255	.000000	.035426	.041921
10	.050	.003090	.494617	.003395	13621.11	6379.55	35.00	.919384	.000000	.029109	.034446
11	.050	.003480	.468358	.003745	15834.36	7019.53	35.00	.921745	.000000	.023967	.028361
12	.050	.003920	.443310	.004139	18263.23	7659.72	35.00	.925246	.000000	.019692	.023302
13	.050	.004470	.419407	.004579	20930.69	8300.31	35.00	.929710	.000000	.016072	.019018
14	.050	.005090	.396562	.005074	23862.53	8941.65	35.00	.935207	.000000	.012954	.015329
15	.050	.005730	.374715	.005624	27088.08	9584.64	35.00	.941938	.000000	.010226	.012101
16	.050	.006500	.353832	.006240	30640.63	10229.09	35.00	.949953	.000000	.007803	.009233
17	.050	.007170	.333841	.006924	34558.25	10877.38	35.00	.959608	.000000	.005616	.006646
18	.050	.007860	.314755	.007669	38884.81	11531.03	35.00	.971061	.000000	.003614	.004277
19	.050	.008640	.296543	.008494	43670.43	12190.77	35.00	.984460	.000000	.001754	.002075
20	.990	.009540	.279154	.009401	48973.02	130.42	35.00	.000000	.000000	.000000	.000000

MECHANICS TO THE RETROSPECTIVE APPROACH.

1) Calculate the DAC that will be capitalized. This is equal to to (a) - (b) - (c), where:
   - (a) = The sum of the Deferrable Expenses and the first year Commission.
   - (b) = The first year excess expense charge.
   - (c) = The first year excess premium load.

2) Calculate the revenue margins that you will amortize the DAC against. This involves three revenue streams, a mortality margin, a net expense load margin, and an interest margin:
   - The mortality margin is the excess of the mortality charge over the mortality expense.
   - The net expense load is equal to the excess of the percent of premium loads over the sum of the renewal commissions plus all the maintenance expenses.
   - The interest margin is equal to the excess of the earned interest over the credited interest applied to the gross accumulation value.

3) The revenue margin percent(RMPCT) that is needed to amortize the DAC is calculated as:

$$RMPCT = \frac{DAC}{PV\ REVENUE\ MARGINS}$$

4) The amortization of the DAC uses an iterative formula:

$$ASSET(t+1) = ASSET(t) \times (1+i) - (RMPCT \times REVENUE\ MARGINS)$$

where i% is the accrual rate of the fund.

5) For our illustrations we have split the DAC into a commission piece and a deferrable expenses piece. This is accomplished by splitting the DAC Asset calculated in (4) above by the split of the first year commissions and the deferrable expenses.

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INPUT ASSUMPTIONS AND BASIC CONTRACT VALUES

AGE IS :	35	GAAP DISCOUNT RATE(%):	10.000000
SPECIFIED PREMIUM IS :	1000	ASSET EARNINGS RATE(%):	13.000000
SPECIFIED AMOUNT IS :	50000	ACCRUAL RATE(%):	10.000000
PREMIUM LOAD(%):	9.00	MORTALITY MODIFICATION(%):	100.000000
INFLATION RATE(%):	.00	DAC CAPITALIZED:	623.33
FIRST YEAR EXPENSE CHARGE:	250	REVENUE MARGIN(%):	45.76

YEAR	WX+T-1	QX+T-1	LX+T-1	MCX+T-1	AFX+T	IAFX+T	MEX+T-1	BRFX+T	DAFX+T	CAFX+T
1	.200	.000810	1.000000	.001506	643.17	514.02	35.00	1.000000	.557368	.715289
2	.100	.001010	.799190	.001610	1621.05	1164.67	35.00	1.000000	.258164	.331311
3	.050	.001210	.718464	.001736	2691.77	1834.91	35.00	1.000000	.171199	.219705
4	.050	.001430	.681671	.001896	3863.27	2498.04	35.00	1.000000	.130457	.167419
5	.050	.001660	.646613	.002080	5145.04	3154.98	35.00	1.000000	.106385	.136527
6	.050	.001900	.613209	.002295	6547.33	3806.51	35.00	1.000000	.090125	.115660
7	.050	.002160	.581383	.002534	8081.92	4453.61	35.00	1.000000	.078109	.100240
8	.050	.002440	.551058	.002794	9762.29	5097.49	35.00	1.000000	.068621	.088063
9	.050	.002750	.522161	.003080	11603.18	5739.13	35.00	1.000000	.060730	.077937
10	.050	.003090	.496617	.003395	13621.11	6379.55	35.00	1.000000	.053887	.069155
11	.050	.003480	.468358	.003745	15834.36	7019.53	35.00	1.000000	.047748	.061276
12	.050	.003920	.443310	.004139	18263.23	7659.72	35.00	1.000000	.042077	.053999
13	.050	.004470	.419407	.004579	20930.69	8300.31	35.00	1.000000	.036730	.047137
14	.050	.005090	.396562	.005074	23862.53	8941.65	35.00	1.000000	.031579	.040526
15	.050	.005730	.374715	.005624	27088.08	9584.64	35.00	1.000000	.026511	.034022
16	.050	.006500	.353832	.006240	30640.63	10229.09	35.00	1.000000	.021459	.027538
17	.050	.007170	.333841	.006924	34558.25	10877.38	35.00	1.000000	.016328	.020955
18	.050	.007860	.314755	.007669	38884.81	11531.03	35.00	1.000000	.011068	.014204
19	.050	.008640	.296543	.008494	43670.43	12190.77	35.00	1.000000	.005637	.007234
20	.990	.009540	.279154	.009401	48973.02	130.42	35.00	.000000	.000000	.000000

Deposit Approach -- Retrospective

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YEAR	PREMIUM	INV INCOME	TOTAL	DEATH BENEFITS	SURR BENEFITS	BEN RESERVE	CHANGE IN RES	MAINT EXPENSES	MAINT RESERVE	CHANGE IN RES	DEFER EXPENSES	DEF ACQ ASSET
1	1000.00	6.72	1006.72	40.50	128.63	514.02	514.02	35.00	.00	.00	400.00	286.50
2	799.19	77.88	877.07	40.36	129.55	1164.67	650.65	27.97	.00	.00	.00	300.68
3	718.46	148.55	867.02	43.47	96.70	1834.91	670.24	25.15	.00	.00	.00	314.13
4	681.67	227.26	908.93	48.74	131.67	2498.04	663.14	23.86	.00	.00	.00	325.89
5	646.61	305.77	952.38	53.67	166.34	3154.98	656.94	22.63	.00	.00	.00	335.64
6	613.21	384.26	997.47	58.25	200.74	3806.51	651.53	21.46	.00	.00	.00	343.06
7	581.38	462.93	1044.31	62.79	234.93	4453.61	647.10	20.35	.00	.00	.00	347.87
8	551.06	541.98	1093.03	67.23	268.98	5097.49	643.87	19.29	.00	.00	.00	349.79
9	522.16	621.63	1143.79	71.80	302.94	5739.13	641.64	18.28	.00	.00	.00	348.54
10	494.62	702.11	1196.72	76.42	336.86	6379.55	640.42	17.31	.00	.00	.00	343.77
11	468.36	783.62	1251.98	81.49	370.81	7019.53	639.98	16.39	.00	.00	.00	335.17
12	443.31	866.36	1309.67	86.89	404.81	7659.72	640.19	15.52	.00	.00	.00	322.30
13	419.41	950.53	1369.93	93.74	438.92	8300.31	640.59	14.68	.00	.00	.00	304.87
14	396.56	1036.23	1432.79	100.92	473.15	8941.65	641.34	13.88	.00	.00	.00	282.37
15	374.72	1123.66	1498.37	107.36	507.52	9584.64	642.99	13.12	.00	.00	.00	254.10
16	353.83	1213.13	1566.96	115.00	542.08	10229.09	644.45	12.38	.00	.00	.00	219.50
17	333.84	1304.77	1638.61	119.68	576.85	10877.38	648.29	11.68	.00	.00	.00	177.61
18	314.75	1399.19	1713.94	123.70	611.96	11531.03	653.65	11.02	.00	.00	.00	127.62
19	296.54	1496.81	1793.35	128.11	647.51	12190.77	659.75	10.38	.00	.00	.00	68.72
20	279.15	1597.97	1877.12	133.16	13540.59	.00	-12190.77	9.77	.00	.00	.00	.00

CHANGE IN ASSET	COMP	DEF ACQ EXPENSE	CHANGE IN DAC	NON DEF EXPENSES	TOTAL	PROFIT
286.50	513.33	367.67	367.67	.00	977.32	29.40
14.18	31.97	385.87	18.20	.00	848.13	28.95
13.46	28.74	403.14	17.27	.00	833.56	33.46
11.75	27.27	418.22	15.08	.00	867.84	41.09
9.76	25.86	430.74	12.52	.00	903.17	49.21
7.42	24.53	440.26	9.52	.00	939.58	57.89
4.81	23.26	446.43	6.17	.00	977.45	66.85
1.92	22.04	448.90	2.47	.00	1017.02	76.01
-1.25	20.89	447.29	-1.61	.00	1058.40	85.40
-4.76	19.78	441.18	-6.11	.00	1101.68	95.04
-8.61	18.73	430.13	-11.05	.00	1147.06	104.91
-12.87	17.73	413.62	-16.51	.00	1194.52	115.15
-17.43	16.78	391.25	-22.37	.00	1244.50	125.44
-22.51	15.86	362.37	-28.88	.00	1296.54	136.25
-28.27	14.99	326.09	-36.28	.00	1350.52	147.86
-34.59	14.15	281.69	-44.40	.00	1407.05	159.90
-41.89	13.35	227.93	-53.76	.00	1465.51	173.10
-49.99	12.59	163.78	-64.15	.00	1527.05	186.89
-58.90	11.86	88.19	-75.59	.00	1592.09	201.26
-68.72	11.17	.00	-88.19	.00	1660.82	216.30

PV PROFITS(AER) 496.33

Composite Approach (One-Third Blended Among Mortality, Interest, and Percent of Premium)

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YEAR	PREMIUM	INV INCOME	TOTAL	DEATH BENEFITS	SURR BENEFITS	BEN RESERVE	CHANGE IN RES	MAINT EXPENSES	MAINT RESERVE	CHANGE IN RES	DEFER EXPENSES	DEF ACQ ASSET
1	1000.00	2.46	1002.46	40.50	128.63	623.46	623.46	35.00	.00	.00	400.00	362.45
2	799.19	70.87	870.06	40.36	129.55	1160.14	536.67	27.97	.00	.00	.00	337.75
3	718.46	138.29	856.75	43.47	96.70	1725.91	565.78	25.15	.00	.00	.00	317.03
4	681.67	213.45	895.12	48.74	131.67	2289.17	563.26	23.86	.00	.00	.00	296.99
5	646.61	288.30	934.91	53.67	166.34	2851.97	562.80	22.63	.00	.00	.00	277.55
6	613.21	363.11	976.31	58.25	200.74	3416.54	564.56	21.46	.00	.00	.00	258.63
7	581.38	438.18	1019.56	62.79	234.93	3984.83	568.30	20.35	.00	.00	.00	240.18
8	551.06	513.78	1064.83	67.23	268.98	4559.04	574.21	19.29	.00	.00	.00	222.10
9	522.16	590.20	1112.36	71.80	302.94	5141.20	582.16	18.28	.00	.00	.00	204.31
10	494.62	667.74	1162.35	76.42	336.86	5733.63	592.43	17.31	.00	.00	.00	186.75
11	468.36	746.69	1215.05	81.49	370.81	6338.34	604.71	16.39	.00	.00	.00	169.31
12	443.31	827.35	1270.66	86.89	404.81	6957.75	619.41	15.52	.00	.00	.00	151.91
13	419.41	910.04	1329.45	93.74	438.92	7593.07	635.33	14.68	.00	.00	.00	134.44
14	396.56	994.94	1391.50	100.92	473.15	8247.23	654.16	13.88	.00	.00	.00	116.82
15	374.72	1082.45	1457.16	107.36	507.52	8924.93	677.70	13.12	.00	.00	.00	98.91
16	353.83	1173.21	1527.04	115.00	542.08	9629.05	704.11	12.38	.00	.00	.00	80.59
17	333.84	1267.63	1601.47	119.68	576.85	10367.92	738.87	11.68	.00	.00	.00	61.71
18	314.75	1366.82	1681.58	123.70	611.96	11148.01	780.10	11.02	.00	.00	.00	42.11
19	296.54	1471.69	1768.23	128.11	647.51	11975.45	827.44	10.38	.00	.00	.00	21.61
20	279.15	1583.05	1862.21	133.16	13540.59	.00	-11975.45	9.77	.00	.00	.00	.00

CHANGE IN ASSET	COMP	DEF ACQ EXPENSE	CHANGE IN DAC	NON DEF EXPENSES	TOTAL	PROFIT (EOY)
362.45	513.33	428.90	428.90	.00	949.58	57.14
-24.71	31.97	399.67	-29.23	.00	820.46	53.00
-20.71	28.74	375.15	-24.51	.00	805.05	54.76
-20.04	27.27	351.44	-23.72	.00	838.56	59.47
-19.44	25.86	328.43	-23.01	.00	873.76	63.91
-18.91	24.53	306.05	-22.38	.00	910.85	68.08
-18.46	23.26	284.21	-21.84	.00	949.93	72.11
-18.08	22.04	262.81	-21.40	.00	991.22	75.96
-17.78	20.89	241.77	-21.04	.00	1034.88	79.71
-17.57	19.78	220.98	-20.79	.00	1081.16	83.30
-17.44	18.73	200.35	-20.64	.00	1130.21	86.83
-17.40	17.73	179.75	-20.59	.00	1182.35	90.19
-17.46	16.78	159.09	-20.66	.00	1237.57	93.66
-17.63	15.86	138.23	-20.86	.00	1296.46	96.73
-17.91	14.99	117.04	-21.19	.00	1359.78	98.98
-18.32	14.15	95.36	-21.68	.00	1427.73	100.82
-18.88	13.35	73.02	-22.34	.00	1501.65	101.23
-19.60	12.59	49.83	-23.19	.00	1582.15	100.77
-20.50	11.86	25.57	-24.26	.00	1670.05	99.44
-21.61	11.17	.00	-25.57	.00	1766.41	96.99

PRESENT VALUE AT:	0 PROFIT RATE	GAAP RATE	ASSET RATE
NET	546.87	521.59	496.33
PREMIUM	176.73	171.13	165.44
MORTALITY	180.15	172.83	165.44
INTEREST	189.99	177.64	165.44

Composite Approach (One-Third Blended Among Mortality, Interest, and Percent of Premium)

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INPUT ASSUMPTIONS AND BASIC CONTRACT VALUES

AGE IS :	35	GAAP DISCOUNT RATE(%):	12.299440	GAAP NET PREMIUMS:	
SPECIFIED PREMIUM IS :	1000	ASSET EARNINGS RATE(%):	13.000000	COMPENSATION:	.131598
SPECIFIED AMOUNT IS :	50000	ACCRUAL RATE(%):	10.000000	DEFERRABLE EXPENSES:	.077406
PREMIUM LOAD(%):	9.00	PROFIT AS % OF PREMIUM :	3.276940	BENEFIT:	.723227
INFLATION RATE(%):	.00	MORTALITY MODIFICATION(%):	149.118000	MAINTENANCE EXPENSES:	.035000
FIRST YEAR EXPENSE CNARGE:	250	INTEREST SPREAD(%) :	.700560	TOTAL	.967231

YEAR	WX+T-1	QX+T-1	LX+T-1	MCX+T-1	AFX+T	IAFX+T	MEX+T-1	BRFX+T	MRFX+T	DAFX+T	CAFX+T
1	.200	.000810	1.000000	.001506	643.17	514.02	35.00	1.212925	.000000	.705136	.834411
2	.100	.001010	.799190	.001610	1621.05	1164.67	35.00	.996107	.000000	.289993	.343158
3	.050	.001210	.718464	.001736	2691.77	1834.91	35.00	.940601	.000000	.172778	.204454
4	.050	.001430	.681671	.001896	3863.27	2498.04	35.00	.916387	.000000	.118889	.140685
5	.050	.001660	.646613	.002080	5145.04	3154.98	35.00	.903958	.000000	.087971	.104099
6	.050	.001900	.613209	.002295	6547.33	3806.51	35.00	.897551	.000000	.067945	.080402
7	.050	.002160	.581383	.002534	8081.92	4453.61	35.00	.894742	.000000	.053928	.063815
8	.050	.002440	.551058	.002794	9762.29	5097.49	35.00	.894370	.000000	.043570	.051557
9	.050	.002750	.522161	.003080	11603.18	5739.13	35.00	.895815	.000000	.035600	.042127
10	.050	.003090	.494617	.003395	13621.11	6379.55	35.00	.898751	.000000	.029273	.034639
11	.050	.003480	.468358	.003745	15834.36	7019.53	35.00	.902958	.000000	.024120	.028541
12	.050	.003920	.443310	.004139	18263.23	7659.72	35.00	.908355	.000000	.019832	.023467
13	.050	.004470	.419407	.004579	20930.69	8300.31	35.00	.914794	.000000	.016197	.019167
14	.050	.005090	.396562	.005074	23862.53	8941.65	35.00	.922339	.000000	.013064	.015459
15	.050	.005730	.374715	.005624	27088.08	9584.64	35.00	.931171	.000000	.010319	.012211
16	.050	.006500	.353832	.006240	30640.63	10229.09	35.00	.941340	.000000	.007878	.009322
17	.050	.007170	.333841	.006924	34558.25	10877.38	35.00	.953163	.000000	.005673	.006713
18	.050	.007860	.314755	.007669	38884.81	11531.03	35.00	.966784	.000000	.003652	.004321
19	.050	.008640	.296543	.008494	43670.43	12190.77	35.00	.982337	.000000	.001773	.002097
20	.990	.009540	.279154	.009401	48973.02	130.42	35.00	.000000	.000000	.000000	.000000

Appendix C

Illustration of Income Effects of Nonguaranteed-Premium Policy

The following tables illustrate the incidence of earnings for a nonguaranteed-premium life insurance policy when gross premiums and prospective interest assumptions change. With the exception of prospective changes in earned interest rate and gross premiums, the original GAAP assumptions are actually experienced. The example gives premium and book profit amounts per $1,000 face amount of life insurance issued to a male age 35 with an assumed average policy size of $100,000.

The original GAAP assumptions are summarized in Table I. Revised cases are presented under the assumption that, at the beginning of the third policy year, there is a prospective change in the investment earnings rate from 9% to 7% and that there is a corresponding change in gross premiums from $10.00 to $10.50 per $1,000 of insurance (including policy fee).

Table II illustrates the effect on book profit under the revised interest and premium rate assumptions assuming the original GAAP factors are utilized ("locked") and assuming that revised GAAP factors consistent with the revised earned interest rate and premiums are prospectively determined for durations three onward ("unlocked"). The following three scenarios are shown in Table II:

1. The interest rate and gross premiums remain constant and the original assumptions are actually experienced. Note the emergence of profit as a level percentage of premiums.

2. In the third policy year, the earned interest rate is lowered to 7%, the gross premiums are increased from $10.00 to $10.50 and the original ("locked") GAAP factors are utilized in determining book profits.

3. As in 2., the earned interest rate is lowered to 7%, the gross premiums are increased in the third policy year, but revised GAAP factors ("unlocked") for duration three onward are utilized in determining book profits.

It can clearly be seen in Table II that when there has been a prospective change in gross premiums, profits emerge as a level percentage of premiums when the original GAAP factors have been unlocked consistent with the expected future experience. In the case when the original assumptions are "locked in", it can be seen that profits are earned more quickly and do not emerge as a level percentage of premiums.

TABLE I

NONGUARANTEED PREMIUM WHOLE LIFE INSURANCE

SUMMARY OF GAAP ASSUMPTIONS

PLAN:	Nonguaranteed Premium Plan Premiums Payable For Life Benefits For Life
AGES:	Male 35
GROSS PREMIUMS:	$9.80/1000
POLICY FEE:	$20
AVERAGE SIZE:	$100,000
INSURANCE UNIT:	$1,000 Level
CASH VALUE BASIS:	1958 CSO Age Nearest Birthday Values are Minimum at 5½%
MORTALITY:	1965-70 Select and Ultimate Age Nearest Birthday
MORTALITY SCALING:	85%

WITHDRAWL RATE:

Duration	Age 35
1	20.0
2	15.0
3	12.0
4	9.0
5	6.0
6+	4.0

INVESTMENT EARNINGS RATE: 9.0% Level

DEFERRABLE EXPENSES:

Commissions:

Duration	Rate
1	101%
2-10	5.2
11+	1.5

Agency %: 25.0%, First Year Only

Issue and Underwriting: (Duration 0 Only)

Age	Per Policy	Per Unit
35	$30.00	$1.00

NON-DEFERRABLE EXPENSES

Maintenance: (Durations 1+) $39/Policy

Claims Handling: $50/Claim

Surrender Handling: $25/Surrender

Premium Tax: 1.5%

MODAL DISTRIBUTION: 100% Annual

TABLE II

SUMMARY OF EXPECTED PROFITS

Year	Gross Premiums		Book Profit Per Unit Issued			Book Profit as a Percentage of Gross Premiums		
	Original	Revised	Original Assumptions	Revised Assumptions "Locked"	Revised Assumptions "Unlocked"	Original Assumptions	Revised Assumptions "Locked"	Revised Assumptions "Unlocked"
1	10.00	10.00	1.72	1.72	1.72	17.2%	17.2%	17.2%
2	7.99	7.99	1.38	1.38	1.38	17.3	17.3	17.3
3	6.79	7.13	1.17	1.52	0.61	17.2	21.3	8.6
4	5.97	6.27	1.03	1.24	0.52	17.3	19.8	8.3
5	5.43	5.70	0.93	1.04	0.45	17.1	18.2	7.9
6	5.09	5.35	0.88	0.90	0.44	17.3	16.8	8.2
7	4.88	5.13	0.85	0.80	0.40	17.4	15.6	7.8
8	4.68	4.91	0.81	0.70	0.39	17.3	14.3	7.9
9	4.48	4.71	0.76	0.58	0.37	17.0	12.3	7.9
10	4.29	4.51	0.74	0.49	0.36	17.2	10.9	8.0
11	4.11	4.32	0.72	0.42	0.34	17.5	9.7	7.9
12	3.94	4.13	0.68	0.32	0.33	17.3	7.7	8.0
13	3.77	3.96	0.65	0.23	0.31	17.2	5.8	7.8
14	3.60	3.79	0.63	0.16	0.30	17.5	4.2	7.9
15	3.45	3.62	0.59	0.06	0.27	17.1	1.7	7.5
16	3.28	3.46	0.57	0.01	0.27	17.3	0.3	7.8
17	3.15	3.30	0.54	-0.06	0.26	17.1	(1.8)	7.9
18	3.00	3.15	0.52	-0.12	0.25	17.3	(3.8)	7.9
19	2.86	3.01	0.49	-0.19	0.24	17.1	(6.3)	8.0
20	2.73	2.87	0.47	-0.24	0.23	17.2	(8.4)	8.0